Sequence Listing



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      293, 296, 305, 336, 358, 361
<223> unknown base
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 tggantttgc ctttgcagaa ntttgngntg ttcctttgcg gattttctcc 250
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<223> unknown base
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 agac 154
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<223> Synthetic oligonucleotide probe
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<210> 19

<211> 457

<212> PRT

<213> Homo sapiens

<400> 19

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Cys Leu Cys Gly Ser Ala Pro Cys Ile Leu Cys Ser Cys Cys Pro 20 25 30

Ala Ser Arg Asn Ser Thr Val Ser Arg Leu Ile Phe Thr Phe Phe

Leu Phe Leu Gly Val Leu Val Ser Ile Ile Met Leu Ser Pro Gly 50 55 60

Val Glu Ser Gln Leu Tyr Lys Leu Pro Trp Val Cys Glu Glu Gly Ala Gly Ile Pro Thr Val Leu Gln Gly His Ile Asp Cys Gly Ser Leu Leu Gly Tyr Arg Ala Val Tyr Arg Met Cys Phe Ala Thr Ala Ala Phe Phe Phe Phe Phe Thr Leu Leu Met Leu Cys Val Ser 115 Ser Ser Arg Asp Pro Arg Ala Ala Ile Gln Asn Gly Phe Trp Phe 125 Phe Lys Phe Leu Ile Leu Val Gly Leu Thr Val Gly Ala Phe Tyr 140 Ile Pro Asp Gly Ser Phe Thr Asn Ile Trp Phe Tyr Phe Gly Val 155 Val Gly Ser Phe Leu Phe Ile Leu Ile Gln Leu Val Leu Leu Ile 175 170 Asp Phe Ala His Ser Trp Asn Gln Arg Trp Leu Gly Lys Ala Glu Glu Cys Asp Ser Arg Ala Trp Tyr Ala Gly Leu Phe Phe Thr Leu Leu Phe Tyr Leu Leu Ser Ile Ala Ala Val Ala Leu Met Phe Met Tyr Tyr Thr Glu Pro Ser Gly Cys His Glu Gly Lys Val Phe Ile Ser Leu Asn Leu Thr Phe Cys Val Cys Val Ser Ile Ala Ala 250 Val Leu Pro Lys Val Gln Asp Ala Gln Pro Asn Ser Gly Leu Leu 265 Gln Ala Ser Val Ile Thr Leu Tyr Thr Met Phe Val Thr Trp Ser 280 Ala Leu Ser Ser Ile Pro Glu Gln Lys Cys Asn Pro His Leu Pro 295 Thr Gln Leu Gly Asn Glu Thr Val Val Ala Gly Pro Glu Gly Tyr 310 Glu Thr Gln Trp Trp Asp Ala Pro Ser Ile Val Gly Leu Ile Ile 325 Phe Leu Leu Cys Thr Leu Phe Ile Ser Leu Arg Ser Ser Asp His 340 Arg Gln Val Asn Ser Leu Met Gln Thr Glu Glu Cys Pro Pro Met

360 355 350 Leu Asp Ala Thr Gln Gln Gln Gln Gln Val Ala Ala Cys Glu Gly Arg Ala Phe Asp Asn Glu Gln Asp Gly Val Thr Tyr Ser Tyr 390 385 Ser Phe Phe His Phe Cys Leu Val Leu Ala Ser Leu His Val Met Met Thr Leu Thr Asn Trp Tyr Lys Pro Gly Glu Thr Arg Lys Met Ile Ser Thr Trp Thr Ala Val Trp Val Lys Ile Cys Ala Ser Trp Ala Gly Leu Leu Tyr Leu Trp Thr Leu Val Ala Pro Leu Leu 450 445 Leu Arg Asn Arg Asp Phe Ser 455 <210> 20 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 20 gccgcctcat cttcacgttc ttcc 24 <210> 21 <211> 20 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 21 tcatccagct ggtgctgctc 20 <210> 22 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 22 cttcttccac ttctgcctgg 20 <210> 23 <211> 18

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 cgcggcacgt ccgcgaggac ttgaagtcct gagcgctcaa gtttgtccgt 150
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<210> 28

<211> 285

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<400> 28

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Leu Cys Leu Phe Pro Arg Val Phe Ala Ala Glu Ala Val Thr Ala 20 25 30

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Pro Glu Pro Tyr Tyr Pro Glu Ser Gly Trp Asp Arg Leu Arg Glu
Leu Phe Gly Lys Asp Glu Gln Gln Arg Ile Ser Lys Asp Leu Ala
Asn Ile Cys Lys Thr Ala Ala Thr Ala Gly Ile Ile Gly Trp Val
Tyr Gly Gly Ile Pro Ala Phe Ile His Ala Lys Gln Gln Tyr Ile
Glu Gln Ser Gln Ala Glu Ile Tyr His Asn Arg Phe Asp Ala Val
                                                         120
                                     115
                110
Gln Ser Ala His Arg Ala Ala Thr Arg Gly Phe Ile Arg Tyr Gly
                                                         135
                                     130
Trp Arg Trp Gly Trp Arg Thr Ala Val Phe Val Thr Ile Phe Asn
                                                         150
                                     145
Thr Val Asn Thr Ser Leu Asn Val Tyr Arg Asn Lys Asp Ala Leu
                                     160
                155
Ser His Phe Val Ile Ala Gly Ala Val Thr Gly Ser Leu Phe Arg
                                     175
                                                         180
                170
Ile Asn Val Gly Leu Arg Gly Leu Val Ala Gly Gly Ile Ile Gly
Ala Leu Leu Gly Thr Pro Val Gly Gly Leu Leu Met Ala Phe Gln
                                                         210
                                     205
                 200
Lys Tyr Ala Gly Glu Thr Val Gln Glu Arg Lys Gln Lys Asp Arg
                 215
Lys Ala Leu His Glu Leu Lys Leu Glu Glu Trp Lys Gly Arg Leu
                 230
Gln Val Thr Glu His Leu Pro Glu Lys Ile Glu Ser Ser Leu Arg
Glu Asp Glu Pro Glu Asn Asp Ala Lys Lys Ile Glu Ala Leu Leu
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<213> Homo sapiens

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<210> 30

<211> 377

<212> DNA

<213> Homo sapiens

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<221> unsure

<222> 262, 330, 371

<223> unknown base

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<210> 31

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 31

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<210> 32

<211> 20

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<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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<211> 1819
<212> DNA
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<211> 204

<212> PRT

<213> Homo sapiens

<400> 36

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Leu Asn Leu Leu Tyr Thr Leu Val Ser Leu Leu Leu Ile Gly Ile 20 25 30

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35 40 45
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Val Gly Val Val Ile Ala Val Gly Ile Phe Leu Phe Leu Ile Ala 50 55 60

Leu Val Gly Leu Ile Gly Ala Val Lys His His Gl
n Val Leu Leu 65 70 75

Phe Phe Tyr Met Ile Ile Leu Leu Leu Val Phe Ile Val Gln Phe 80 85 90

Ser Val Ser Cys Ala Cys Leu Ala Leu Asn Gln Glu Gln Gl
y 95 100 105

Gln Leu Leu Glu Val Gly Trp Asn Asn Thr Ala Ser Ala Arg Asn 110 115 120

Asp Ile Gln Arg Asn Leu Asn Cys Cys Gly Phe Arg Ser Val Asn 125 130 135

Pro Asn Asp Thr Cys Leu Ala Ser Cys Val Lys Ser Asp His Ser 140 145 150

Cys Ser Pro Cys Ala Pro Ile Ile Gly Glu Tyr Ala Gly Glu Val 155 160 165

Leu Arg Phe Val Gly Gly Ile Gly Leu Phe Phe Ser Phe Thr Glu 170 175 180

Ile Leu Gly Val Trp Leu Thr Tyr Arg Tyr Arg Asn Gln Lys Asp 185 190 195

Pro Arg Ala Asn Pro Ser Ala Phe Leu 200

<210> 37

<211> 390

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<213> Homo sapiens

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<223> unknown base

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 tctaatgtat aataacattt accttcagcc tcccatcaga atggaacgag 250
 ttttgagtaa tccaggaagt atatctatat gatcttgata ttgttttata 300
 taatttgaag totaaaagac tgcattttta aacaagttag tattaatgcg 350
 ttggcccacg tagcaaaaag atatttgatt atcttaaaaa ttgttaaata 400
 ccgttttcat gaaagttctc agtattgtaa cagcaacttg tcaaacctaa 450
 gcatatttga atatgatctc ccataatttg aaattgaaat cgtattgtgt 500
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 tggttggcaa caatcacggc caagtgactc cgcaaatgac atcccagaga 150
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aatcctaaac tgctgtgggt tccgaagtgt taacccaaat gacacctgtc 200

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<213> Homo sapiens

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Leu Pro Leu Gln Arg Ser Ala Ala Arg Leu Leu Phe Ser Phe Tyr
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                200
Lys Asp Gly Arg Ile Val Gln Ser Arg Gly Leu Ser Ser Glu Phe
Gln Ile Pro Thr Ala Ser Glu Asp His Ser Gly Ser Tyr Trp Cys
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Glu Ala Ala Thr Glu Asp Asn Gln Val Trp Lys Gln Ser Pro Gln
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Leu Glu Ile Arg Val Gln Gly Ala Ser Ser Ser Ala Ala Pro Pro
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Thr Leu Asn Pro Ala Pro Gln Lys Ser Ala Ala Pro Gly Thr Ala
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Pro Glu Glu Ala Pro Gly Pro Leu Pro Pro Pro Pro Thr Pro Ser
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Ser Glu Asp Pro Gly Phe Ser Ser Pro Leu Gly Met Pro Asp Pro
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His Leu Tyr His Gln Met Gly Leu Leu Leu Lys His Met Gln Asp
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Lys Val Pro Gly Asp Val Ser Leu Gln Leu Ser Thr Leu Glu Met 100

Asp Asp Arg Ser His Tyr Thr Cys Glu Val Thr Trp Gln Thr Pro 115

Asp Gly Asn Gln Val Val Arg Asp Lys Ile Thr Glu Leu Arg Val 125

Gln Lys Leu Ser Val Ser Lys Pro Thr Val Thr Thr Gly Ser Gly 140

Tyr Gly Phe Thr Val Pro Gln Gly Met Arg Ile Ser Leu Gln Cys

Gln Ala Arg Gly Ser Pro Pro Ile Ser Tyr Ile Trp Tyr Lys Gln

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Leu Leu Phe Lys Pro Ala Val Ile Ala Asp Ser Gly Ser Tyr Phe
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Cys Thr Ala Lys Gly Gln Val Gly Ser Glu Gln His Ser Asp Ile
Val Lys Phe Val Val Lys Asp Ser Ser Lys Leu Leu Lys Thr Lys
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Thr Glu Ala Pro Thr Thr Met Thr Tyr Pro Leu Lys Ala Thr Ser
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Thr Val Lys Gln Ser Trp Asp Trp Thr Thr Asp Met Asp Gly Tyr
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Leu Gly Glu Thr Ser Ala Gly Pro Gly Lys Ser Leu Pro Val Phe
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Ala Ile Ile Leu Ile Ile Ser Leu Cys Cys Met Val Val Phe Thr
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Gly Asn Glu Ala Gly Lys Glu Ser Cys Val Val Arg Val Thr Val
Gln Tyr Val Gln Ser Ile Gly Met Val Ala Gly Ala Val Thr Gly
                                    235
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Ile Val Ala Gly Ala Leu Leu Ile Phe Leu Leu Val Trp Leu Leu
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Ile Arg Arg Lys Asp Lys Glu Arg Tyr Glu Glu Glu Arg Pro
Asn Glu Ile Arg Glu Asp Ala Glu Ala Pro Lys Ala Arg Leu Val
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Lys Pro Ser Ser Ser Ser Gly Ser Arg Ser Arg Ser Gly
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Ser Ser Ser Thr Arg Ser Thr Ala Asn Ser Ala Ser Arg Ser Gln
Arg Thr Leu Ser Thr Asp Ala Ala Pro Gln Pro Gly Leu Ala Thr
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Gln Ala Tyr Ser Leu Val Gly Pro Glu Val Arg Gly Ser Glu Pro
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<213> Homo sapiens

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Cys	Gly	Thr	Leu	Pro 215	Ser	Phe	Ser	Ser	Ser 220	Thr	Ser	Pro	Ser	Pro 225
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Phe	Leu	Cys	Asn	Ala 440	Ser	Glu	Arg	Glu	Val 445	Ala	Ala	Phe	Ser	Asn 450
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Ala	Leu	Arg	Gln	His 485	Arg	Arg	Asn	Asp	Val 490	Val	Glu	Lys	Ile	Arg 495
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Pro	Asn	Ala	Lys	Leu 530	Glu	Asn	Ser	Ala	Leu 535	Leu	Thr	Val	Glu	Pro 540
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Lys Tyr Arg Cys Arg Ser Ser Phe Lys Cys Ile Glu Leu Ile Ala 80 85 90

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Arg Cys Val Arg Val Gly Gly Gln Asn Ala Val Leu Gln Val Phe

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35 40 45

Ser Val Arg Ser Gly Asp Leu Trp Ile Pro Val Lys Ser Phe Asp 50 55 60

Ser Lys Asn His Pro Glu Val Leu Asn Ile Arg Leu Gln Arg Glu 65 70 75

Ser Lys Glu Leu Ile Ile Asn Leu Glu Arg Asn Glu Gly Leu Ile 80 85 90

Ala Ser Ser Phe Thr Glu Thr His Tyr Leu Gln Asp Gly Thr Asp 95 100 105

Val Ser Leu Ala Arg Asn Tyr Thr Gly His Cys Tyr Tyr His Gly
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His Val Arg Gly Tyr Ser Asp Ser Ala Val Ser Leu Ser Thr Cys 125 130 135

Ser Gly Leu Arg Gly Leu Ile Val Phe Glu Asn Glu Ser Tyr Val 140 145 150

Leu Glu Pro Met Lys Ser Ala Thr Asn Arg Tyr Lys Leu Phe Pro 155 160 165

Ala Lys Lys Leu Lys Ser Val Arg Gly Ser Cys Gly Ser His His 170 175 180

Asn Thr Pro Asn Leu Ala Ala Lys Asn Val Phe Pro Pro Pro Ser 185 190 195

Gln Thr Trp Ala Arg Arg His Lys Arg Glu Thr Leu Lys Ala Thr 200 205 210

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Ile	Val	Leu	Val	Gly 260	Val	Glu	Val	Trp	Asn 265	Asp	Met	Asp	Lys	Cys 270
Ser	Val	Ser	Gln	Asp 275	Pro	Phe	Thr	Ser	Leu 280	His	Glu	Phe	Leu	Asp 285
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Gly	Gln	Lys	Cys	Gly 425		Arg	Phe	Val	Glu 430	Glu	Gly	Glu	Glu	Cys 435
Asp	Cys	Gly	Glu	Pro 440		Glu	Cys	Met	Asn 445		Cys	Cys	Asn	Ala 450
Thr	Thr	Cys	Thr	Leu 455		Pro	Asp	Ala	Val 460		Ala	His	Gly	Leu 465
Cys	Cys	Glu	Asp	Cys 470		Leu	Lys	Pro	Ala 475		Thr	Ala	Cys	Arg 480
Asp	Ser	Ser	Asn	Ser 485		Asp	Leu	Pro	Glu 490		Cys	Thr	Gly	Ala 495
Ser	Pro	His	Cys	Pro	Ala	Asn	Val	Tyr	Leu	. His	Asp	Gly	His	Ser

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His	Glu	Gln	Gln	Cys 530	Val	Thr	Leu	Trp	Gly 535	Pro	Gly	Ala	Lys	Pro 540
Ala	Pro	Gly	Ile	Cys 545	Phe	Glu	Arg	Val	Asn 550	Ser	Ala	Gly	Asp	Pro 555
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Glu	Met	Arg	Asp	Ala 575	Lys	Суѕ	Gly	Lys	Ile 580	Gln	Cys	Gln	Gly	Gly 585
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His	Val	Tyr	Leu	Gly 620	Asp	Asp	Met	Pro	Asp 625	Pro	Gly	Leu	Val	Leu 630
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Glu	Ala	His	Trp	Ala 680	Pro	Pro	Phe	Cys	Asp 685	Lys	Phe	Gly	Phe	Gly 690
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Glu	Ala	Ala	Glu	Ser 710	Asn	Arg	Glu	Arg	Gly 715	Gln	Gly	Gln	Glu	Pro 720
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Gly Lys Lys Val Asp Gln Tyr Lys Gly Lys Arg Asp Leu Glu Ser
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Leu Arg Glu Tyr Val Glu Ser Gln Leu Gln Arg Thr Glu Thr Gly
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Tyr Ala Pro Trp Cys Gly His Cys Lys Thr Leu Ala Pro Thr Trp
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Tyr Ser Val Arg Gly Tyr Pro Thr Leu Leu Leu Phe Arg Gly Gly
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<211> 277

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Ala Arg Leu Lys Thr Ser Met Lys Phe Val Lys Asn Val Ile Ala 140 145 150

Gly Ile Arg Glu Thr Glu Glu Lys Phe Tyr Tyr Ile Val Gln Glu 155 160 165

Glu Lys Asn Tyr Arg Glu Ser Leu Thr His Cys Arg Ile Arg Gly
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Gly Met Leu Ala Met Pro Lys Asp Glu Ala Ala Asn Thr Leu Ile 185 190 195

Ala Asp Tyr Val Ala Lys Ser Gly Phe Phe Arg Val Phe Ile Gly 200 205 210

Val Asn Asp Leu Glu Arg Glu Gly Gln Tyr Met Ser Thr Asp Asn 215 220 225

Thr Pro Leu Gln Asn Tyr Ser Asn Trp Asn Glu Gly Glu Pro Ser 230 235 240

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Gly Ser Met Ala Ala Leu Leu Leu Leu Pro Leu Leu Leu Leu 50 55 60

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Leu Pro Ala Asp Leu Ala Phe Ala Val Arg Ala Leu Cys Cys Lys 80 85 90

Arg Ala Leu Arg Ala Arg Ala Leu Ala Ala Ala Ala Ala Asp Pro 95 100 105

Glu Gly Pro Glu Gly Gly Cys Ser Leu Ala Trp Arg Leu Ala Glu 110 115 120

Leu Ala Gln Gln Arg Ala Ala His Thr Phe Leu Ile His Gly Ser 125 130 135

Arg Arg Phe Ser Tyr Ser Glu Ala Glu Arg Glu Ser Asn Arg Ala 140 145 150

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Ala Gly Gly Asp Gly Ala Ala Arg Gly Gly Gly Ala Ala Arg Pro 200 205 210

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<211> 515

<212> PRT

<213> Homo sapiens

<400> 114

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35 40 45

Trp Gly Gln Ala Leu Glu Glu Glu Glu Glu Gly Ala Leu Leu Ala 50 55 60

Gln Ala Gly Glu Lys Leu Glu Pro Ser Thr Thr Ser Thr Ser Gln
65 70 75

Pro His Leu Ile Phe Ile Leu Ala Asp Asp Gln Gly Phe Arg Asp 80 85 90

Val Gly Tyr His Gly Ser Glu Ile Lys Thr Pro Thr Leu Asp Lys 95 100 105

Leu Ala Ala Glu Gly Val Lys Leu Glu Asn Tyr Tyr Val Gln Pro

				110					115					120
Ile	Cys	Thr	Pro	Ser 125	Arg	Ser	Gln	Phe	Ile 130	Thr	Gly	Lys	Tyr	Gln 135
Ile	His	Thr	Gly	Leu 140	Gln	His	Ser	Ile	Ile 145	Arg	Pro	Thr	Gln	Pro 150
Asn	Cys	Leu	Pro	Leu 155	Asp	Asn	Ala	Thr	Leu 160	Pro	Gln	Lys	Leu	Lys 165
Glu	Val	Gly	Tyr	Ser 170	Thr	His	Met	Val	Gly 175	Lys	Trp	His	Leu	Gly 180
Phe	Asn	Arg	Lys	Glu 185	Cys	Met	Pro	Thr	Arg 190	Arg	Gly	Phe	Asp	Thr 195
Phe	Phe	Gly	Ser	Leu 200	Leu	Gly	Ser	Gly	Asp 205	Tyr	Tyr	Thr	His	Tyr 210
Lys	Cys	Asp	Ser	Pro 215	Gly	Met	Суз	Gly	Tyr 220	Asp	Leu	Tyr	Glu	Asn 225
Asp	Asn	Ala	Ala	Trp 230	Asp	Tyr	Asp	Asn	Gly 235	Ile	Tyr	Ser	Thr	Gln 240
Met	Tyr	Thr	Gln	Arg 245	Val	Gln	Gln	Ile	Leu 250	Ala	Ser	His	Asn	Pro 255
Thr	Lys	Pro	Ile	Phe 260	Leu	Tyr	Thr	Ala	Tyr 265	Gln	Ala	Val	His	Ser 270
Pro	Leu	Gln	Ala	Pro 275	Gly	Arg	Tyr	Phe	Glu 280	His	Tyr	Arg	Ser	Ile 285
Ile	Asn	Ile	Asn	Arg 290	Arg	Arg	Tyr	Ala	Ala 295	Met	Leu	Ser	Cys	Leu 300
Asp	Glu	Ala	Ile	Asn 305	Asn	Val	Thr	Leu	Ala 310	Leu	Lys	Thr	Tyr	Gly 315
Phe	Tyr	Asn	Asn	Ser 320		Ile	Ile	Tyr	Ser 325	Ser	Asp	Asn	Gly	Gly 330
Gln	Pro	Thr	Ala	Gly 335		Ser	Asn	Trp	Pro 340	Leu	Arg	Gly	Ser	Lys 345
Gly	Thr	Туг	Trp	Glu 350		Gly	Ile	Arg	Ala 355	Val	Gly	Phe	Val	His 360
Ser	Pro	Leu	Leu	Lys 365		Lys	Gly	Thr	Val 370	Cys	Lys	Glu	Leu	Val 375
His	Ile	Thr	Asp	Trp 380		Pro	Thr	Leu	Ile 385		Leu	Ala	Glu	Gly 390
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 Cys Ser Thr Gly Asn Cys Leu Gln Glu Ile Leu Ala Thr Ala Thr
 Gly Ser Pro Leu Ser Leu Ser Ala Thr Trp Asp Arg Thr Gly Gly
 Thr Met Asn Gly Ser Pro Cys Gln Leu Ala Lys Val Tyr Gly Phe
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 tcqaactqca atatatcagt ggacgatatg actgtataga tataaatgaa 800
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<213> Homo sapiens

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Gly Lys Lys Gly Asn Glu Glu Lys 335

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<210> 122

<211> 50

<212> DNA

<213> Artificial Sequence

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<400> 122

gataaactgt cagtacagct gtgaagacac agaagaaggg ccacagtgcc 50

<210> 123

<211> 1199

<212> DNA

<213> Homo sapiens

<400> 123

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gctggaaagg gtgaaaagaa gatgcctaga gaatggcaat ttaaaagaaa 300

aagatatact tgttttgccc cttgacctga ccgacactgg ttcccatgaa 350 gcggctacca aagctgttct ccaggagttt ggtagaatcg acattctggt 400 caacaatggt ggaatgtccc agcgttctct gtgcatggat accagcttgg 450 atgtctacag aaagctaata gagcttaact acttagggac ggtgtccttg 500 acaaaatgtg ttctgcctca catgatcgag aggaagcaag gaaagattgt 550 tactgtgaat agcatcctgg gtatcatatc tgtacctctt tccattggat 600 actgtgctag caagcatgct ctccggggtt tttttaatgg ccttcgaaca 650 gaacttgcca catacccagg tataatagtt tctaacattt gcccaggacc 700 tqtqcaatca aatattqtqq agaattccct agctggagaa gtcacaaaga 750 ctataggcaa taatggagac cagtcccaca agatgacaac cagtcgttgt 800 gtgcggctga tgttaatcag catggccaat gatttgaaag aagtttggat 850 ctcagaacaa cctttcttgt tagtaacata tttgtggcaa tacatgccaa 900 cctgggcctg gtggataacc aacaagatgg ggaagaaaag gattgagaac 950 tttaagagtg gtgtggatgc agactettet tattttaaaa tetttaagac 1000 aaaacatgac tgaaaagagc acctgtactt ttcaagccac tggagggaga 1050 aatggaaaac atgaaaacag caatcttctt atgcttctga ataatcaaag 1100 actaatttgt gattttactt tttaatagat atgactttgc ttccaacatg 1150 gaatgaaata aaaaataaat aataaaagat tgccatgaat cttgcaaaa 1199

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Glu Asn Gly Asn Leu Lys Glu Lys Asp Ile Leu Val Leu Pro Leu 50 55 60

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Leu Gln Glu Phe Gly Arg Ile Asp Ile Leu Val Asn Asn Gly Gly

<210> 124

<211> 289

<212> PRT

<213> Homo sapiens

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Arg Lys Leu Ile Glu Leu Asn Tyr Leu Gly Thr Val Ser Leu Thr 110 115 120

Lys Cys Val Leu Pro His Met Ile Glu Arg Lys Gln Gly Lys Ile 125 130 130

Val Thr Val Asn Ser Ile Leu Gly Ile Ile Ser Val Pro Leu Ser $140 \hspace{1.5cm} 145 \hspace{1.5cm} 150 \hspace{1.5cm}$

Ile Gly Tyr Cys Ala Ser Lys His Ala Leu Arg Gly Phe Phe Asn 155 160 165

Gly Leu Arg Thr Glu Leu Ala Thr Tyr Pro Gly Ile Ile Val Ser

Asn Ile Cys Pro Gly Pro Val Gln Ser Asn Ile Val Glu Asn Ser 185 190 195

Leu Ala Gly Glu Val Thr Lys Thr Ile Gly Asn Asn Gly Asp Gln
200 205 210

Ser His Lys Met Thr Thr Ser Arg Cys Val Arg Leu Met Leu Ile 215 220 225

Ser Met Ala Asn Asp Leu Lys Glu Val Trp Ile Ser Glu Gln Pro $230 \hspace{1.5cm} 235 \hspace{1.5cm} 240 \hspace{1.5cm}$

Phe Leu Leu Val Thr Tyr Leu Trp Gln Tyr Met Pro Thr Trp Ala 245 250 255

Trp Trp Ile Thr Asn Lys Met Gly Lys Lys Arg Ile Glu Asn Phe 260 265 270

Lys Ser Gly Val Asp Ala Asp Ser Ser Tyr Phe Lys Ile Phe Lys 275 280 285

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<400> 125

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<210> 126

<211> 19

<212> DNA

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<400> 126
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<210> 127
<211> 20
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<220>
<223> Synthetic oligonucleotide probe
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<212> DNA
<213> Homo sapiens
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<211> 571

<212> PRT

<213> Homo sapiens

<400> 132

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Ala Trp Ile Leu Phe Phe Val Leu Tyr Asp Phe Cys Ile Val Cys $20 \hspace{1cm} 25 \hspace{1cm} 30$

Ile Thr Thr Tyr Ala Ile Asn Val Ser Leu Met Trp Leu Ser Phe 35 40 45

Arg Lys Val Gln Glu Pro Gln Gly Lys Ala Lys Arg His Gly Asn
50 55 60

Thr Val Pro Gly Glu Trp Pro Trp Gln Ala Ser Val Arg Arg Gln
65 70 75

Gly	Ala	His	Ile	Cys 80	Ser	Gly	Ser	Leu	Val 85	Ala	Asp	Thr	Trp	Val 90
Leu	Thr	Ala	Ala	His 95	Cys	Phe	Glu	Lys	Ala 100	Ala	Ala	Thr	Glu	Leu 105
Asn	Ser	Trp	Ser	Val 110	Val	Leu	Gly	Ser	Leu 115	Gln	Arg	Glu	Gly	Leu 120
Ser	Pro	Gly	Ala	Glu 125	Glu	Val	Gly	Val	Ala 130	Ala	Leu	Gln	Leu	Pro 135
Arg	Ala	Tyr	Asn	His 140	Tyr	Ser	Gln	Gly	Ser 145	Asp	Leu	Ala	Leu	Leu 150
Gln	Leu	Ala	His	Pro 155	Thr	Thr	His	Thr	Pro 160	Leu	Cys	Leu	Pro	Gln 165
Pro	Ala	His	Arg	Phe 170	Pro	Phe	Gly	Ala	Ser 175	Cys	Trp	Ala	Thr	Gly 180
Trp	Asp	Gln	Asp	Thr 185	Ser	Asp	Ala	Pro	Gly 190	Thr	Leu	Arg	Asn	Leu 195
Arg	Leu	Arg	Leu	Ile 200	Ser	Arg	Pro	Thr	Cys 205	Asn	Cys	Ile	Tyr	Asn 210
Gln	Leu	His	Gln	Arg 215	His	Leu	Ser	Asn	Pro 220	Ala	Arg	Pro	Gly	Met 225
Leu	Cys	Gly	Gly	Pro 230	Gln	Pro	Gly	Val	Gln 235	Gly	Pro	Cys	Gln	Gly 240
Asp	Ser	Gly	Gly	Pro 245	Val	Leu	Cys	Leu	Glu 250	Pro	Asp	Gly	His	Trp 255
Val	Gln	Ala	Gly	Ile 260	Ile	Ser	Phe	Ala	Ser 265	Ser	Cys	Ala	Gln	Glu 270
Asp	Ala	Pro	Val	Leu 275	Leu	Thr	Asn	Thr	Ala 280	Ala	His	Ser	Ser	Trp 285
Leu	Gln	Ala	Arg	Val 290	Gln	Gly	Ala	Ala	Phe 295	Leu	Ala	Gln	Ser	Pro 300
Glu	Thr	Pro	Glu	Met 305	Ser	Asp	Glu	Asp	Ser 310	Cys	Val	Ala	Cys	Gly 315
Ser	Leu	Arg	Thr	Ala 320		Pro	Gln	Ala	Gly 325	Ala	Pro	Ser	Pro	Trp 330
Pro	Trp	Glu	Ala	Arg 335		Met	His	Gln	Gly 340		Leu	Ala	Cys	Gly 345
Gly	Ala	Leu	Val	Ser 350		Glu	. Ala	Val	Leu 355		Ala	Ala	His	Cys 360
Phe	Ile	Gly	Arg	Gln	Ala	Pro	Glu	Glu	Trp	Ser	Val	Gly	Leu	Gly

	365		370		375								
Thr Arg Pro Glu	Glu Trp Gly 380	y Leu Lys	Gln Leu Ile 385	Leu His	Gly 390								
Ala Tyr Thr His	Pro Glu Gly 395	y Gly Tyr	Asp Met Ala 400	Leu Leu	Leu 405								
Leu Ala Gln Pro	Val Thr Lew 410	ı Gly Ala	Ser Leu Arg 415	Pro Leu	Cys 420								
Leu Pro Tyr Pro	Asp His His 425	s Leu Pro	Asp Gly Glu 430	Arg Gly	Trp 435								
Val Leu Gly Arg	Ala Arg Pro	o Gly Ala	Gly Ile Ser 445	Ser Leu	Gln 450								
Thr Val Pro Val	Thr Leu Le	u Gly Pro	Arg Ala Cys 460	Ser Arg	Leu 465								
His Ala Ala Pro	Gly Gly As	p Gly Ser	Pro Ile Leu 475	Pro Gly	Met 480								
Val Cys Thr Ser	Ala Val Gl 485	y Glu Leu	Pro Ser Cys 490	Glu Gly	Leu 495								
Ser Gly Ala Pro	Leu Val Hi 500	s Glu Val	Arg Gly Thr 505	Trp Phe	Leu 510								
Ala Gly Leu His	Ser Phe Gl 515	y Asp Ala	Cys Gln Gly 520	Pro Ala	Arg 525								
Pro Ala Val Phe	e Thr Ala Le 530	u Pro Ala	Tyr Glu Asp 535	Trp Val	Ser 540								
Ser Leu Asp Tr	Gln Val Ty 545	r Phe Ala	Glu Glu Pro 550	Glu Pro	Glu 555								
Ala Glu Pro Gl	y Ser Cys Le 560	eu Ala Asn	Ile Ser Gln 565	Pro Thr	Ser 570								
Cys													
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<210> 136
<211> 1998
<212> DNA
<213> Homo sapiens
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 gatgctgcgt cggcggggca gccctggcat gggtgtgcat gtgggtgcag 200
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  cttgtttgat gtgcacagcg tcctgcgggt ggtgctgggt gcgaatggca 800
  cctacagctg cctggtgcgc aaccccgtgc tgcagcagga tgcgcacrgc 850
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<212> PRT

<213> Homo sapiens

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<222> 233

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<400> 137

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Val	Gln	Val	Pro	Glu 35	Asp	Pro	Val	Val	Ala 40	Leu	Val	Gly	Thr	Asp 45
Ala	Thr	Leu	Cys	Cys 50	Ser	Phe	Ser	Pro	Glu 55	Pro	Gly	Phe	Ser	Leu 60
Ala	Gln	Leu	Asn	Leu 65	Ile	Trp	Gln	Leu	Thr 70	Asp	Thr	Lys	Gln	Leu 75
Val	His	Ser	Phe	Ala 80	Glu	Gly	Gln	Asp	Gln 85	Gly	Ser	Ala	Tyr	Ala 90
Asn	Arg	Thr	Ala	Leu 95	Phe	Pro	Asp	Leu	Leu 100	Ala	Gln	Gly	Asn	Ala 105
Ser	Leu	Arg	Leu	Gln 110	Arg	Val	Arg	Val	Ala 115	Asp	Glu	Gly	Ser	Phe 120
Thr	Cys	Phe	Val	Ser 125	Ile	Arg	Asp	Phe	Gly 130	Ser	Ala	Ala	Val	Ser 135
Leu	Gln	Val	Ala	Ala 140	Pro	Tyr	Ser	Lys	Pro 145	Ser	Met	Thr	Leu	Glu 150
Pro	Asn	Lys	Asp	Leu 155	Arg	Pro	Gly	Asp	Thr 160	Val	Thr	Ile	Thr	Cys 165
Ser	Ser	Tyr	Gln	Gly 170	Tyr	Pro	Glu	Ala	Glu 175	Val	Phe	Trp	Gln	Asp 180
Gly	Gln	Gly	Val	Pro 185	Leu	Thr	Gly	Asn	Val 190	Thr	Thr	Ser	Gln	Met 195
Ala	Asn	Glu	Gln	Gly 200	Leu	Phe	Asp	Val	His 205	Ser	Val	Leu	Arg	Val 210
Val	Leu	Gly	Ala	Asn 215	Gly	Thr	Tyr	: Ser	220	Leu	Val	Arg	Asn	225
Val	Leu	Gln	Gln	Asp 230		His	: Xaa	Ser	235	Thr	Ile	Thr	Gly	Glr. 240
Pro	Met	Thr	Phe	Pro 245		Glu	ı Ala	. Leu	250	Val	Thr	: Val	Gly	255
Ser	: Val	Cys	Leu	11e 260		Leu	ı Lev	ı Val	Ala 265	Leu 5	Ala	Ph∈	e Val	. Cys 270
Trp	Arg	J Lys	: Ile	Lys 275		. Ser	Cys	s Glu	1 Glu 280	Glu	Asr	n Ala	a Gly	7 Ala 285
Glu	ı Asp	Gln	Asp	Gly 290	/ Glu	ı Gly	7 Glu	ı Gly	y Ser 295	Lys S	Thi	r Ala	a Leu	300

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<212> DNA
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<222> 1620, 1673
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 tacgttctta aatctatgaa gtcgagggac ctttcgctgc ttttgtaggg 150
 acttetttee ttgetteage aacatgagge ttttettgtg gaacgeggte 200
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 gtttaccctg ggcatcctgg aggctctcaa aggttgggac cagggcttga 450
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 ggctatggaa aagaaggaaa aggtaaaatt cccccagaaa gtacactgat 550
 atttaatatt gatctcctgg agattcgaaa tggaccaaga tcccatgaat 600
 cattccaaga aatggatctt aatgatgact ggaaactctc taaagatgag 650
 gttaaagcat atttaaagaa ggagtttgaa aaacatggtg cggtggtgaa 700
 tgaaagtcat catgatgctt tggtggagga tatttttgat aaagaagatg 750
 aagacaaaga tgggtttata tctgccagag aatttacata taaacacgat 800
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gagttataga qatacatcta cccttttaat atagcactca tctttcaaga 850

gagggcagtc atctttaaag aacattttat ttttatacaa tgttctttct 900 tgctttgttt tttattttta tatatttttt ctgactccta tttaaagaac 950 cccttaggtt tctaagtacc catttctttc tgataagtta ttgggaagaa 1000 aaagctaatt ggtctttgaa tagaagactt ctggacaatt tttcactttc 1050 acagatatga agctttgttt tactttctca cttataaatt taaaatgttg 1100 caactgggaa tataccacga catgagacca ggttatagca caaattagca 1150 ccctatattt ctgcttccct ctattttctc caagttagag gtcaacattt 1200 gaaaagcctt ttgcaatagc ccaaggcttg ctattttcat gttataatqa 1250 aatagtttat gtgtaactgg ctctgagtct ctgcttgagg accagaggaa 1300 aatggttgtt ggacctgact tgttaatggc tactgcttta ctaaggagat 1350 gtgcaatgct gaagttagaa acaaggttaa tagccaggca tqqtqqctca 1400 tgcctgtaat cccagcactt tgggaggctg aggcgggcgg atcacctgag 1450 gttgggagtt cgagaccagc ctgaccaaca cggagaaacc ctatctctac 1500 taaaaataca aagtagcccg gcgtggtgat gcgtgcctgt aatcccagct 1550 acccaggaag gctgaggcgg cagaatcact tgaacccgag gccgaggttg 1600 cggtaagccg agatcacctn cagcctggac actctgtctc gaaaaaagaa 1650 aagaacacgg ttaataccat atnaatatgt atgcattgag acatgctacc 1700 taggacttaa gctgatgaag cttggctcct agtgattggt ggcctattat 1750 gataaatagg acaaatcatt tatgtgtgag tttctttgta ataaaatgta 1800 tcaatatgtt atagatgagg tagaaagtta tatttatatt caatatttac 1850 ttcttaaggc tagcggaata tccttcctgg ttctttaatg ggtagtctat 1900 agtatattat actacaataa cattgtatca taagataaag tagtaaacca 1950 gtctacattt tcccatttct gtctcatcaa aaactgaagt tagctgggtg 2000 tggtggctca tgcctgtaat cccagcactt tgggggccaa ggagggtgga 2050 tcacttgaga tcaggagttc aagaccagcc tggccaacat ggtgaaacct 2100 tgtctctact aaaaatacaa aaattagcca ggcgtggtgg tgcacacctg 2150 tagtcccagc tactcgggag gctgagacag gagatttgct tgaacccggg 2200 aggcggaggt tgcagtgagc caagattgtg ccactgcact ccagcctggg 2250 tgacagagca agactccatc tcaaaaaaaa aaaaaagaag cagacctaca 2300

gcagctacta ttgaataaat acctatcctg gatttt 2336

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- <211> 211
- <212> PRT
- <213> Homo sapiens

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- Ser Leu Ile Gly Ala Leu Ile Pro Glu Pro Glu Val Lys Ile Glu
- Val Leu Gln Lys Pro Phe Ile Cys His Arg Lys Thr Lys Gly Gly
- Asp Leu Met Leu Val His Tyr Glu Gly Tyr Leu Glu Lys Asp Gly 50
- Ser Leu Phe His Ser Thr His Lys His Asn Asn Gly Gln Pro Ile
- Trp Phe Thr Leu Gly Ile Leu Glu Ala Leu Lys Gly Trp Asp Gln
- Gly Leu Lys Gly Met Cys Val Gly Glu Lys Arg Lys Leu Ile Ile
- Pro Pro Ala Leu Gly Tyr Gly Lys Glu Gly Lys Gly Lys Ile Pro
- Pro Glu Ser Thr Leu Ile Phe Asn Ile Asp Leu Leu Glu Ile Arg
- Asn Gly Pro Arg Ser His Glu Ser Phe Gln Glu Met Asp Leu Asn 145
- Asp Asp Trp Lys Leu Ser Lys Asp Glu Val Lys Ala Tyr Leu Lys
- Lys Glu Phe Glu Lys His Gly Ala Val Val Asn Glu Ser His His 170
- Asp Ala Leu Val Glu Asp Ile Phe Asp Lys Glu Asp Glu Asp Lys
- Asp Gly Phe Ile Ser Ala Arg Glu Phe Thr Tyr Lys His Asp Glu 210

Leu

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- <211> 26
- <212> DNA
- <213> Artificial Sequence

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<223> Synthetic oligonucleotide probe
<400> 147
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<210> 148
<211> 49
<212> DNA
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<223> Synthetic oligonucleotide probe
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<211> 2196
<212> DNA
<213> Homo sapiens
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cagagatgcc tggctacctc gccctgcctt cagcctcacg gggctcagtc 200
tctttttctc tttggtgcca ccaggacgga gcatggaggt cacagtacct 250
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<211> 215

<212> PRT

<213> Homo sapiens

<400> 150

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Glu Val Thr Val Pro Ala Thr Leu Asn Val Leu Asn Gly Ser Asp
35 40 45

Ala Arg Leu Pro Cys Thr Phe Asn Ser Cys Tyr Thr Val Asn His
50 55 60

Lys Gln Phe Ser Leu Asn Trp Thr Tyr Gln Glu Cys Asn Asn Cys 65 70 75

Ser Glu Glu Met Phe Leu Gln Phe Arg Met Lys Ile Ile Asn Leu 80 85 90

Lys Leu Glu Arg Phe Gln Asp Arg Val Glu Phe Ser Gly Asn Pro 95 100 105

Ser Lys Tyr Asp Val Ser Val Met Leu Arg Asn Val Gln Pro Glu 110 115 120

Asp Glu Gly Ile Tyr Asn Cys Tyr Ile Met Asn Pro Pro Asp Arg 125 130 135

His Arg Gly His Gly Lys Ile His Leu Gln Val Leu Met Glu Glu
140 145 150

Pro Pro Glu Arg Asp Ser Thr Val Ala Val Ile Val Gly Ala Ser 155 160 165

Val Gly Gly Phe Leu Ala Val Val Ile Leu Val Leu Met Val Val 170 175 180

Lys Cys Val Arg Arg Lys Lys Glu Gln Lys Leu Ser Thr Asp Asp 185 190 195

Leu Lys Thr Glu Glu Glu Gly Lys Thr Asp Gly Glu Gly Asn Pro 200 205 210

Asp Asp Gly Ala Lys 215

<210> 151

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<222> 103, 233
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 gccctgcctt cagcctcacg gggctcagtc tctttttctc tttggtgcca 200
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 aatggctctg acgcccgcct gccctgccct tcaactcctg ctacacagtg 300
 aaccacaaac agttctccct gaactggact taccaggagt gcaacaactg 350
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<212> DNA
<213> Homo sapiens
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<221> unsure
<222> 56, 123
<223> unknown base
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cctccagttc ccgcatggaa gatcatttaa cctgaaagct ggaagcggtt 250
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<211> 2680
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<212> PRT

<213> Artificial

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Gly Leu Leu Phe Leu Leu Leu Leu Met Leu Leu Ala Asp Pro 20 25 30

Ala Leu Pro Ala Gly Arg His Pro Pro Val Val Leu Val Pro Gly 35 40 45

Asp Leu Gly Asn Gln Leu Glu Ala Lys Leu Asp Lys Pro Thr Val 50 55 60

Val His Tyr Leu Cys Ser Lys Lys Thr Glu Ser Tyr Phe Thr Ile 65 70 75

Trp Leu Asn Leu Glu Leu Leu Pro Val Ile Ile Asp Cys Trp 80 85 90

Ile Asp Asn Ile Arg Leu Val Tyr Asn Lys Thr Ser Arg Ala Thr 95 100 105

Gln Phe Pro Asp Gly Val Asp Val Arg Val Pro Gly Phe Gly Lys

				110					115					120
Thr	Phe	Ser	Leu	Glu 125	Phe	Leu	Asp	Pro	Ser 130	Lys	Ser	Ser	Val	Gly 135
Ser	Tyr	Phe	His	Thr 140	Met	Val	Glu	Ser	Leu 145	Val	Gly	Trp	Gly	Tyr 150
Thr	Arg	Gly	Glu	Asp 155	Val	Arg	Gly	Ala	Pro 160	Tyr	Asp	Trp	Arg	Arg 165
Ala	Pro	Asn	Glu	Asn 170	Gly	Pro	Tyr	Phe	Leu 175	Ala	Leu	Arg	Glu	Met 180
Ile	Glu	Glu	Met	Tyr 185	Gln	Leu	Tyr	Gly	Gly 190	Pro	Val	Val	Leu	Val 195
Ala	His	Ser	Met	Gly 200	Asn	Met	Tyr	Thr	Leu 205	Tyr	Phe	Leu	Gln	Arg 210
Gln	Pro	Gln	Ala	Trp 215	Lys	Asp	Lys	Tyr	Ile 220	Arg	Ala	Phe	Val	Ser 225
Leu	Gly	Ala	Pro	Trp 230	Gly	Gly	Val	Ala	Lys 235	Thr	Leu	Arg	Val	Leu 240
Ala	Ser	Gly	Asp	Asn 245	Asn	Arg	Ile	Pro	Val 250	Ile	Gly	Pro	Leu	Lys 255
Ile	Arg	Glu	Gln	Gln 260	Arg	Ser	Ala	Val	Ser 265	Thr	Ser	Trp	Leu	Leu 270
Pro	Tyr	Asn	Tyr	Thr 275	Trp	Ser	Pro	Glu	Lys 280	Val	Phe	Val	Gln	Thr 285
Pro	Thr	Ile	Asn	Tyr 290	Thr	Leu	Arg	Asp	Tyr 295	Arg	Lys	Phe	Phe	Gln 300
Asp	Ile	Gly	Phe	Glu 305	Asp	Gly	Trp	Leu	Met 310	Arg	Gln	Asp	Thr	Glu 315
Gly	Leu	Val	Glu	Ala 320	Thr	Met	Pro	Pro	Gly 325	Val	Gln	Leu	His	Cys 330
Leu	Tyr	Gly	Thr	Gly 335	Val	Pro	Thr	Pro	Asp 340	Ser	Phe	Tyr	Tyr	Glu 345
Ser	Phe	Pro	Asp	Arg 350	Asp	Pro	Lys	Ile	Cys 355	Phe	Gly	Asp	Gly	Asp 360
Gly	Thr	Val	Asn	Leu 365	Lys	Ser	Ala	Leu	Gln 370	Cys	Gln	Ala	Trp	Gln 375
Ser	Arg	Gln	Glu	His 380	Gln	Val	Leu	Leu	Gln 385	Glu	Leu	Pro	Gly	Ser 390
Glu	His	Ile	Glu	Met 395	Leu	Ala	Asn	Ala	Thr 400	Thr	Leu	Ala	Tyr	Leu 405

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<210> 160
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<220>
<223> Synthetic oligonucleotide probe
<400> 160
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<210> 161
<211> 1512
<212> DNA
<213> Homo sapiens
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gcggcgcttc ctgacgcagc cgcaggtggt ggcgcgcgc gtgtgcttgg 150
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<210> 162
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<211> 224

<212> PRT

<213> Homo sapiens

<400> 162

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 Glu Gly Tyr Ser Asn Ala His Glu Ser Lys Gln Met Tyr Cys Val
 Phe Asn Arg Asn Glu Asp Ala Cys Arg Tyr Gly Ser Ala Ile Gly
 Val Leu Ala Phe Leu Ala Ser Ala Phe Phe Leu Val Val Asp Ala
 Tyr Phe Pro Gln Ile Ser Asn Ala Thr Asp Arg Lys Tyr Leu Val
                                      100
 Ile Gly Asp Leu Leu Phe Ser Ala Leu Trp Thr Phe Leu Trp Phe
                 110
                                      115
 Val Gly Phe Cys Phe Leu Thr Asn Gln Trp Ala Val Thr Asn Pro
 Lys Asp Val Leu Val Gly Ala Asp Ser Val Arg Ala Ala Ile Thr
                                     145
 Phe Ser Phe Phe Ser Ile Phe Ser Trp Gly Val Leu Ala Ser Leu
 Ala Tyr Gln Arg Tyr Lys Ala Gly Val Asp Asp Phe Ile Gln Asn
                 170
                                     175
 Tyr Val Asp Pro Thr Pro Asp Pro Asn Thr Ala Tyr Ala Ser Tyr
                                     190
 Pro Gly Ala Ser Val Asp Asn Tyr Gln Gln Pro Pro Phe Thr Gln
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                                                          210
 Asn Ala Glu Thr Thr Glu Gly Tyr Gln Pro Pro Pro Val Tyr
<210> 163
<211> 24
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
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- <212> DNA

- <400> 163
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- <210> 164
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- <213> Artificial Sequence
- <223> Synthetic oligonucleotide probe

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<211> 3143
<212> DNA
<213> Homo sapiens
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tccaggagga cagcatggcc tccacggtgc tgtggaccgt gttcctgggc 1950
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<210> 169

<211> 802

<212> PRT

<213> Homo sapiens

<400> 169

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				290					295					300
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Leu	Ser	Val	Gln	Pro 320	Val	Val	Phe	Gln	Ala 325	Cys	Glu	Val	Asn	Leu 330
Thr	Leu	Asp	Asn	Arg 335	Leu	Asp	Ser	Gln	Gly 340	Val	Leu	Ser	Thr	Pro 345
Tyr	Phe	Pro	Ser	Tyr 350	Tyr	Ser	Pro	Gln	Thr 355	His	Cys	Ser	Trp	His 360
Leu	Thr	Val	Pro	Ser 365	Leu	Asp	Tyr	Gly	Leu 370	Ala	Leu	Trp	Phe	Asp 375
Ala	Tyr	Ala	Leu	Arg 380	Arg	Gln	Lys	Tyr	Asp 385	Leu	Pro	Cys	Thr	Gln 390
Gly	Gln	Trp	Thr	Ile 395	Gln	Asn	Arg	Arg	Leu 400	Cys	Gly	Leu	Arg	Ile 405
Leu	Gln	Pro	Tyr	Ala 410	Glu	Arg	Ile	Pro	Val 415	Val	Ala	Thr	Ala	Gly 420
Ile	Thr	Ile	Asn	Phe 425	Thr	Ser	Gln	Ile	Ser 430	Leu	Thr	Gly	Pro	Gly 435
Val	Arg	Val	His	Tyr 440	Gly	Leu	Tyr	Asn	Gln 445	Ser	Asp	Pro	Cys	Pro 450
Gly	Glu	Phe	Leu	Cys 455	Ser	Val	Asn	Gly	Leu 460	Cys	Val	Pro	Ala	Cys 465
Asp	Gly	Val	Lys	Asp 470	Cys	Pro	Asn	Gly	Leu 475	Asp	Glu	Arg	Asn	Cys 480
Val	Cys	Arg	Ala	Thr 485	Phe	Gln	Cys	Lys	Glu 490	Asp	Ser	Thr	Cys	Ile 495
Ser	Leu	Pro	Lys	Val 500	Cys	Asp	Gly	Gln	Pro 505	Asp	Cys	Leu	Asn	Gly 510
Ser	Asp	Glu	Glu	Gln 515	Cys	Gln	Glu	Gly	Val 520	Pro	Cys	Gly	Thr	Phe 525
Thr	Phe	Gln	Cys	Glu 530	Asp	Arg	Ser	Cys	Val 535	Lys	Lys	Pro	Asn	Pro 540
Gln	Суз	Asp	Gly	Arg 545	Pro	Asp	Cys	Arg	Asp 550	Gly	Ser	Asp	Glu	Glu 555
His	Cys	Asp	Cys	Gly 560	Leu	Gln	Gly	Pro	Ser 565	Ser	Arg	Ile	Val	Gly 570
Gly	Ala	Val	Ser	Ser 575	Glu	Gly	Glu	Trp	Pro 580	Trp	Gln	Ala	Ser	Leu 585

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                                                         615
                605
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Asn Ser Arg Trp Pro Gly Glu Val Ser Phe Lys Val Ser Arg Leu
                                     640
Leu Leu His Pro Tyr His Glu Glu Asp Ser His Asp Tyr Asp Val
                                     655
Ala Leu Leu Gln Leu Asp His Pro Val Val Arg Ser Ala Ala Val
                665
                                     670
                                                         675
Arg Pro Val Cys Leu Pro Ala Arg Ser His Phe Phe Glu Pro Gly
                680
                                     685
Leu His Cys Trp Ile Thr Gly Trp Gly Ala Leu Arg Glu Gly Gly
                695
                                     700
Pro Ile Ser Asn Ala Leu Gln Lys Val Asp Val Gln Leu Ile Pro
                                     715
Gln Asp Leu Cys Ser Glu Ala Tyr Arg Tyr Gln Val Thr Pro Arg
                                     730
Met Leu Cys Ala Gly Tyr Arg Lys Gly Lys Lys Asp Ala Cys Gln
                                     745
Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Ala Leu Ser Gly Arg
Trp Phe Leu Ala Gly Leu Val Ser Trp Gly Leu Gly Cys Gly Arg
Pro Asn Tyr Phe Gly Val Tyr Thr Arg Ile Thr Gly Val Ile Ser
Trp Ile Gln Gln Val Val Thr
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<211> 1327

<212> DNA

<213> Homo sapiens

<400> 170

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caccatcaac ttcacctccc agatctccct caccgggccc ggtgtgcggg 150
tgcactatgg cttgtacaac cagtcggacc cctgccctgg agagttcctc 200

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tgttctgtga atggactctg tgtccctgcc tgtgatgggg tcaaggactg 250
ccccaacggc ctggatgaga gaaactgcgt ttgcagagcc acattccagt 300
gcaaagagga cagcacatgc atctcactgc ccaaggtctg tgatgggcag 350
cctgattqtc tcaacggcag cgatgaagag cagtgccagg aaggggtgcc 400
atgtgggaca ttcaccttcc agtgtgagga ccggagctgc gtgaagaagc 450
ccaacccgca gtgtgatggg cggcccgact gcagggacgg ctcggatgag 500
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ggggtcgaca catctgtggg ggggccctca tcgctgaccg ctgggtgata 650
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<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 171

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<210> 172

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<400> 173
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tgcctatgca ctgaggaggc agaag 25
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<400> 175
 aggcagggac acagagtcca ttcac 25
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agtatgattt gccgtgcacc cagggccagt ggacgatcca gaacaggagg 50
<210> 177
<211> 1510
<212> DNA
<213> Homo sapiens
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<400> 177

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<211> 354

<212> PRT

<213> Homo sapiens

<400> 178

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Lys Pro Ser Val Arg Phe Asn Leu Arg Thr Ser Lys Asp Pro Glu
50 55 60

His Glu Gly Cys Tyr Leu Ser Val Gly His Ser Gln Pro Leu Glu
65 70 75

Asp Cys Ser Phe Asn Met Thr Ala Lys Thr Phe Phe Ile Ile His $80 \hspace{1cm} 85 \hspace{1cm} 90$

Gly Trp Thr Met Ser Gly Ile Phe Glu Asn Trp Leu His Lys Leu 95 100 105

Val Ser Ala Leu His Thr Arg Glu Lys Asp Ala Asn Val Val 110 115 120

Val Asp Trp Leu Pro Leu Ala His Gln Leu Tyr Thr Asp Ala Val 125 130 135

Asn Asn Thr Arg Val Val Gly His Ser Ile Ala Arg Met Leu Asp 140 145 150

Trp Leu Gln Glu Lys Asp Asp Phe Ser Leu Gly Asn Val His Leu 155 160 165

Ile Gly Tyr Ser Leu Gly Ala His Val Ala Gly Tyr Ala Gly Asn 170 175 180

Phe Val Lys Gly Thr Val Gly Arg Ile Thr Gly Leu Asp Pro Ala 185 190 195

Gly Pro Met Phe Glu Gly Ala Asp Ile His Lys Arg Leu Ser Pro 200 205 210

Asp Asp Ala Asp Phe Val Asp Val Leu His Thr Tyr Thr Arg Ser

Phe Gly Leu Ser Ile Gly Ile Gln Met Pro Val Gly His Ile Asp 230 235 240

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Asp Val Leu Gly Ser Ile Ala Tyr Gly Thr Ile Thr Glu Val Val
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                 260
 Lys Cys Glu His Glu Arg Ala Val His Leu Phe Val Asp Ser Leu
                                     280
 Val Asn Gln Asp Lys Pro Ser Phe Ala Phe Gln Cys Thr Asp Ser
                                                          300
Asn Arg Phe Lys Lys Gly Ile Cys Leu Ser Cys Arg Lys Asn Arg
 Cys Asn Ser Ile Gly Tyr Asn Ala Lys Lys Met Arg Asn Lys Arg
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 Gly Asn Leu Gln Ser Leu Glu Cys Pro
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<223> Synthetic oligonucleotide probe
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<210> 180
<211> 26
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<210> 181
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<211> 3240 <212> DNA <213> Homo sapiens

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<211> 713

<212> PRT

<213> Homo sapiens

<400> 183

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Pro Pro Ala Val Leu Leu Glu Val Gln Gly Thr Leu Gln Arg Pro 35 40 45

Leu Val Arg Asp Ser Arg Thr Ser Pro Ala Asn Cys Thr Trp Leu
50 55 60

Ile Leu Gly Ser Lys Glu Gln Thr Val Thr Ile Arg Phe Gln Lys
65 70 75

Leu His Leu Ala Cys Gly Ser Glu Arg Leu Thr Leu Arg Ser Pro 80 85 90

Leu Gln Pro Leu Ile Ser Leu Cys Glu Ala Pro Pro Ser Pro Leu 95 100 105

Gln Leu Pro Gly Gly Asn Val Thr Ile Thr Tyr Ser Tyr Ala Gly
110 115 120

Ala Arg Ala Pro Met Gly Gln Gly Phe Leu Leu Ser Tyr Ser Gln 125 130 135

Asp Trp Leu Met Cys Leu Gln Glu Glu Phe Gln Cys Leu Asn His 140 145 150

Arg Cys Val Ser Ala Val Gln Arg Cys Asp Gly Val Asp Ala Cys 155 160 165

Gly Asp Gly Ser Asp Glu Ala Gly Cys Ser Ser Asp Pro Phe Pro

				170					175					180
Gly	Leu	Thr	Pro	Arg 185	Pro	Val	Pro	Ser	Leu 190	Pro	Cys	Asn	Val	Thr 195
Leu	Glu	Asp	Phe	Tyr 200	Gly	Val	Phe	Ser	Ser 205	Pro	Gly	Tyr	Thr	His 210
Leu	Ala	Ser	Val	Ser 215	His	Pro	Gln	Ser	Cys 220	His	Trp	Leu	Leu	Asp 225
Pro	His	Asp	Gly	Arg 230	Arg	Leu	Ala	Val	Arg 235	Phe	Thr	Ala	Leu	Asp 240
Leu	Gly	Phe	Gly	Asp 245	Ala	Val	His	Val	Tyr 250	Asp	Gly	Pro	Gly	Pro 255
Pro	Glu	Ser	Ser	Arg 260	Leu	Leu	Arg	Ser	Leu 265	Thr	His	Phe	Ser	Asn 270
Gly	Lys	Ala	Val	Thr 275	Val	Glu	Thr	Leu	Ser 280	Gly	Gln	Ala	Val	Val 285
Ser	Tyr	His	Thr	Val 290	Ala	Trp	Ser	Asn	Gly 295	Arg	Gly	Phe	Asn	Ala 300
Thr	Tyr	His	Val	Arg 305	Gly	Tyr	Cys	Leu	Pro 310	Trp	Asp	Arg	Pro	Cys 315
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Cys	Tyr	Ser	Glu	Ala 335	Gln	Arg	Cys	Asp	Gly 340	Ser	Trp	Asp	Cys	Ala 345
Asp	Gly	Thr	Asp	Glu 350	Glu	Asp	Cys	Pro	Gly 355	Cys	Pro	Pro	Gly	His 360
Phe	Pro	Cys	Gly	Ala 365	Ala	Gly	Thr	Ser	Gly 370	Ala	Thr	Ala	Cys	Tyr 375
Leu	Pro	Ala	Asp	Arg 380	Cys	Asn	Tyr	Gln	Thr 385	Phe	Cys	Ala	Asp	Gly 390
Ala	Asp	Glu	Arg	Arg 395	Суз	Arg	His	Cys	Gln 400	Pro	Gly	Asn	Phe	Arg 405
Cys	Arg	Asp	Glu	Lys 410	Cys	Val	Tyr	Glu	Thr 415	Trp	Val	Cys	Asp	Gly 420
Gln	Pro	Asp	Cys	Ala 425	Asp	Gly	Ser	Asp	Glu 430	Trp	Asp	Cys	Ser	Tyr 435
Val	Leu	Pro	Arg	Lys 440	Val	Ile	Thr	Ala	Ala 445	Val	Ile	Gly	Ser	Leu 450
Val	Cys	Gly	Leu	Leu 455	Leu	Val	Ile	Ala	Leu 460	Gly	Cys	Thr	Cys	Lys 465

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Ser Arg Met Glu Ala Glu Ile Val Gln Gln Ala Pro Pro Ser
Tyr Gly Gln Leu Ile Ala Gln Gly Ala Ile Pro Pro Val Glu Asp
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Phe Pro Thr Glu Asn Pro Asn Asp Asn Ser Val Leu Gly Asn Leu
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Arg Ser Leu Leu Gln Ile Leu Arg Gln Asp Met Thr Pro Gly Gly
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Gly Pro Gly Ala Arg Arg Arg Gln Arg Gly Arg Leu Met Arg Arg
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Leu Val Arg Arg Leu Arg Arg Trp Gly Leu Leu Pro Arg Thr Asn
Thr Pro Ala Arg Ala Ser Glu Ala Arg Ser Gln Val Thr Pro Ser
Ala Ala Pro Leu Glu Ala Leu Asp Gly Gly Thr Gly Pro Ala Arg
Glu Gly Gly Ala Val Gly Gly Gln Asp Gly Glu Gln Ala Pro Pro
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Pro Thr Thr Val Pro Glu Ala Pro Gly Pro Leu Pro Ser Leu Pro
                 635
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Leu Glu Pro Ser Leu Leu Ser Gly Val Val Gln Ala Leu Arg Gly
Arg Leu Leu Pro Ser Leu Gly Pro Pro Gly Pro Thr Arg Ser Pro
                                     670
                 665
Pro Gly Pro His Thr Ala Val Leu Ala Leu Glu Asp Glu Asp Asp
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<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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<400> 185
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<210> 186
<211> 23
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<220>
<223> Synthetic oligonucleotide probe
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<400> 189
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 gctatcgctt cgcagaacct actcaggcag ccagctgaga agagttgagg 100
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adddddddd ddd

<210> 190

<211> 152

<212> PRT

<213> Homo sapiens

<400> 190

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Ser Val Lys Gly His Val Lys Met Leu Arg Leu Ala Leu Thr Val 20 25 30

Thr Ser Met Thr Phe Phe Ile Ile Ala Gln Ala Pro Glu Pro Tyr 35 40 45

Ile Val Ile Thr Gly Phe Glu Val Thr Val Ile Leu Phe Phe Ile
50 55 60

Leu Leu Tyr Val Leu Arg Leu Asp Arg Leu Met Lys Trp Leu Phe 65 70 75

Trp Pro Leu Leu Asp Ile Ile Asn Ser Leu Val Thr Thr Val Phe 80 85 90

Met Leu Ile Val Ser Val Leu Ala Leu Ile Pro Glu Thr Thr 95 100 105

Leu Thr Val Gly Gly Val Phe Ala Leu Val Thr Ala Val Cys 110 115 120

Cys Leu Ala Asp Gly Ala Leu Ile Tyr Arg Lys Leu Leu Phe Asn 125 130

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Val Leu

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<210> 195
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<212> DNA
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<211> 518

<212> PRT

<213> Homo sapien

<400> 196

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Leu Pro Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Thr Pro Gly Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu 50 55 60

Ala Leu Ala Leu Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala 65 70 75

Asn Phe Leu Ala Met Val Asp Asn Leu Gln Gly Asp Ser Gly Arg 80 85 90

Gly Tyr Tyr Leu Glu Met Leu Ile Gly Thr Pro Pro Gln Lys Leu
95 100 105

Gln	Ile	Leu	Val	Asp 110	Thr	Gly	Ser	Ser	Asn 115	Phe	Ala	Val	Ala	Gly 120
Thr	Pro	His	Ser	Tyr 125	Ile	Asp	Thr	Tyr	Phe 130	Asp	Thr	Glu	Arg	Ser 135
Ser	Thr	Tyr	Arg	Ser 140	Lys	Gly	Phe	Asp	Val 145	Thr	Val	Lys	Tyr	Thr 150
Gln	Gly	Ser	Trp	Thr 155	Gly	Phe	Val	Gly	Glu 160	Asp	Leu	Val	Thr	Ile 165
Pro	Lys	Gly	Phe	Asn 170	Thr	Ser	Phe	Leu	Val 175	Asn	Ile	Ala	Thr	Ile 180
Phe	Glu	Ser	Glu	Asn 185	Phe	Phe	Leu	Pro	Gly 190	Ile	Lys	Trp	Asn	Gly 195
Ile	Leu	Gly	Leu	Ala 200	Tyr	Ala	Thr	Leu	Ala 205	Lys	Pro	Ser	Ser	Ser 210
Leu	Glu	Thr	Phe	Phe 215	Asp	Ser	Leu	Val	Thr 220	Gln	Ala	Asn	Ile	Pro 225
Asn	Val	Phe	Ser	Met 230	Gln	Met	Cys	Gly	Ala 235	Gly	Leu	Pro	Val	Ala 240
Gly	Ser	Gly	Thr	Asn 245	Gly	Gly	Ser	Leu	Val 250	Leu	Gly	Gly	Ile	Glu 255
Pro	Ser	Leu	Tyr	Lys 260	Gly	Asp	Ile	Trp	Tyr 265	Thr	Pro	Ile	Lys	Glu 270
Glu	Trp	Tyr	Tyr	Gln 275	Ile	Glu	Ile	Leu	Lys 280	Leu	Glu	Ile	Gly	Gly 285
Gln	Ser	Leu	Asn	Leu 290	Asp	Cys	Arg	Glu	Tyr 295	Asn	Ala	Asp	Lys	Ala 300
Ile	Val	Asp	Ser	Gly 305	Thr	Thr	Leu	Leu	Arg 310	Leu	Pro	Gln	Lys	Val 315
Phe	Asp	Ala	Val	Val 320	Glu	Ala	Val	Ala	Arg 325	Ala	Ser	Leu	Ile	Pro 330
Glu	Phe	Ser	Asp	Gly 335	Phe	Trp	Thr	Gly	Ser 340	Gln	Leu	Ala	Cys	Trp 345
Thr	Asn	Ser	Glu	Thr 350	Pro	Trp	Ser	Tyr	Phe 355	Pro	Lys	Ile	Ser	Ile 360
Tyr	Leu	Arg	Asp	Glu 365	Asn	Ser	Ser	Arg	Ser 370	Phe	Arg	Ile	Thr	Ile 375
Leu	Pro	Gln	Leu	Tyr 380	Ile	Gln	Pro	Met	Met 385	Gly	Ala	Gly	Leu	Asn 390
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<213> Homo sapiens

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<400> 206

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Met Gly Asn Leu Arg Gly Arg Thr Ala Val Val Thr Gly Ala Asn 35 40 45

Ser Gly Ile Gly Lys Met Thr Ala Leu Glu Leu Ala Arg Arg Gly
50 55 60

Ala Arg Val Val Leu Ala Cys Arg Ser Gln Glu Arg Gly Glu Ala 65 70 75

Ala Ala Phe Asp Leu Arg Gln Glu Ser Gly Asn Asn Glu Val Ile $80 \hspace{1cm} 85 \hspace{1cm} 90$

Phe Met Ala Leu Asp Leu Ala Ser Leu Ala Ser Val Arg Ala Phe 95 100 105

Ala Thr Ala Phe Leu Ser Ser Glu Pro Arg Leu Asp Ile Leu Ile 110 115 120

His Asn Ala Gly Ile Ser Ser Cys Gly Arg Thr Arg Glu Ala Phe 125 130 135

Asn Leu Leu Arg Val Asn His Ile Gly Pro Phe Leu Leu Thr 140 145 150

His Leu Leu Pro Cys Leu Lys Ala Cys Ala Pro Ser Arg Val Val Val Val Ala Ser Ala Ala His Cys Arg Gly Arg Leu Asp Phe Lys Arg Leu Asp Arg Pro Val Val Gly Trp Arg Gln Glu Leu Arg 190 Ala Tyr Ala Asp Thr Lys Leu Ala Asn Val Leu Phe Ala Arg Glu 200 205 Leu Ala Asn Gln Leu Glu Ala Thr Gly Val Thr Cys Tyr Ala Ala 220 His Pro Gly Pro Val Asn Ser Glu Leu Phe Leu Arg His Val Pro 235 Gly Trp Leu Arg Pro Leu Leu Arg Pro Leu Ala Trp Leu Val Leu Arg Ala Pro Arg Gly Gly Ala Gln Thr Pro Leu Tyr Cys Ala Leu 265 Gln Glu Gly Ile Glu Pro Leu Ser Gly Arg Tyr Phe Ala Asn Cys His Val Glu Glu Val Pro Pro Ala Ala Arg Asp Asp Arg Ala Ala His Arg Leu Trp Glu Ala Ser Lys Arg Leu Ala Gly Leu Gly Pro Gly Glu Asp Ala Glu Pro Asp Glu Asp Pro Gln Ser Glu Asp Ser 325 330 Glu Ala Pro Ser Ser Leu Ser Thr Pro His Pro Glu Glu Pro Thr 340 Val Ser Gln Pro Tyr Pro Ser Pro Gln Ser Ser Pro Asp Leu Ser 355 350 Lys Met Thr His Arg Ile Gln Ala Lys Val Glu Pro Glu Ile Gln 370

Leu Ser

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<213> Artificial Sequence

<223> Synthetic oligonucleotide probe

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<400> 207

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<213> Homo sapiens
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<213> Homo sapiens

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Cys Gln Ala Ser Gly Gln Pro Pro Pro Thr Ile Arg Trp Leu Leu 35 40 45

Asn Gly Gln Pro Leu Ser Met Val Pro Pro Asp Pro His His Leu 50 55 60

Leu Pro Asp Gly Thr Leu Leu Leu Gln Pro Pro Ala Arg Gly
65 70 75

His Ala His Asp Gly Gln Ala Leu Ser Thr Asp Leu Gly Val Tyr
80 85 90

Thr Cys Glu Ala Ser Asn Arg Leu Gly Thr Ala Val Ser Arg Gly 95 100 105

Ala Arg Leu Ser Val Ala Val Leu Arg Glu Asp Phe Gln Ile Gln
110 115 120

Pro Arg Asp Met Val Ala Val Val Gly Glu Gln Phe Thr Leu Glu 125 130 135

Cys Gly Pro Pro Trp Gly His Pro Glu Pro Thr Val Ser Trp Trp 140 145 150

Lys Asp Gly Lys Pro Leu Ala Leu Gln Pro Gly Arg His Thr Val 155 160 165

Ser Gly Gly Ser Leu Leu Met Ala Arg Ala Glu Lys Ser Asp Glu 170 175 180

Gly Thr Tyr Met Cys Val Ala Thr Asn Ser Ala Gly His Arg Glu 185 190 195

Ser Arg Ala Ala Arg Val Ser Ile Glu Pro Glu Asp Tyr Thr 200 205 210

Glu Pro Val Glu Leu Leu Ala Val Arg Ile Gln Leu Glu Asn Val 215 220 225

Thr Leu Leu Asn Pro Asp Pro Ala Glu Gly Pro Lys Pro Arg Pro 230 235 240

Ala Val Trp Leu Ser Trp Lys Val Ser Gly Pro Ala Ala Pro Ala 245 Gln Ser Tyr Thr Ala Leu Phe Arg Thr Gln Thr Ala Pro Gly Gly 270 265 Gln Gly Ala Pro Trp Ala Glu Glu Leu Leu Ala Gly Trp Gln Ser Ala Glu Leu Gly Gly Leu His Trp Gly Gln Asp Tyr Glu Phe Lys Val Arg Pro Ser Ser Gly Arg Ala Arg Gly Pro Asp Ser Asn Val 305 Leu Leu Leu Arg Leu Pro Glu Lys Val Pro Ser Ala Pro Pro Gln 325 320 Glu Val Thr Leu Lys Pro Gly Asn Gly Thr Val Phe Val Ser Trp 340 Val Pro Pro Pro Ala Glu Asn His Asn Gly Ile Ile Arg Gly Tyr 350 355 Gln Val Trp Ser Leu Gly Asn Thr Ser Leu Pro Pro Ala Asn Trp Thr Val Val Gly Glu Gln Thr Gln Leu Glu Ile Ala Thr His Met 380 Pro Gly Ser Tyr Cys Val Gln Val Ala Ala Val Thr Gly Ala Gly Ala Gly Glu Pro Ser Arg Pro Val Cys Leu Leu Glu Gln Ala Met Glu Arg Ala Thr Glu Glu Pro Ser Glu His Gly Pro Trp Thr Leu Glu Gln Leu Arg Ala Thr Leu Lys Arg Pro Glu Val Ile Ala 440 Thr Cys Gly Val Ala Leu Trp Leu Leu Leu Gly Thr Ala Val 460 Cys Ile His Arg Arg Arg Arg Ala Arg Val His Leu Gly Pro Gly 470 Leu Tyr Arg Tyr Thr Ser Glu Asp Ala Ile Leu Lys His Arg Met Asp His Ser Asp Ser Gln Trp Leu Ala Asp Thr Trp Arg Ser Thr Ser Gly Ser Arg Asp Leu Ser Ser Ser Ser Leu Ser Ser Arg 515 520 Leu Gly Ala Asp Ala Arg Asp Pro Leu Asp Cys Arg Arg Ser Leu

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Thr	Pro	Ala	Arg	Pro 575	Ser	Pro	Gln	Val	Pro 580	Ala	Val	Arg	Arg	Leu 585
Pro	Pro	Gln	Leu	Ala 590	Gln	Leu	Ser	Ser	Pro 595	Cys	Ser	Ser	Ser	Asp 600
Ser	Leu	Cys	Ser	Arg 605	Arg	Gly	Leu	Ser	Ser 610	Pro	Arg	Leu	Ser	Leu 615
Ala	Pro	Ala	Glu	Ala 620	Trp	Lys	Ala	Lys	Lys 625	Lys	Gln	Glu	Leu	Gln 630
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Gln	Ser	Pro	Gly	Ala 665	Val	Pro	Gln	Ala	Leu 670	Val	Ala	Trp	Arg	Ala 675
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His	Leu	Pro	Pro	Ala 695	Pro	Leu	Phe	Pro	His 700	Glu	Thr	Pro	Pro	Thr 705
Gln	Ser	Gln	Gln	Thr 710	Gln	Pro	Pro	Val	Ala 715	Pro	Gln	Ala	Pro	Ser 720
Ser	Ile	Leu	Leu	Pro 725	Ala	Ala	Pro	Ile	Pro 730	Ile	Leu	Ser	Pro	Cys 735
Ser	Pro	Pro	Ser	Pro 740	Gln	Ala	Ser	Ser	Leu 745	Ser	Gly	Pro	Ser	Pro 750
Ala	Ser	Ser	Arg	Leu 755	Ser	Ser	Ser	Ser	Leu 760	Ser	Ser	Leu	Gly	Glu 765
Asp	Gln	Asp	Ser	Val 770	Leu	Thr	Pro	Glu	Glu 775	Val	Ala	Leu	Cys	Leu 780
Glu	Leu	Ser	Glu	Gly 785	Glu	Glu	Thr	Pro	Arg 790	Asn	Ser	Val	Ser	Pro 795
Met	Pro	Arg	Ala	Pro 800	Ser	Pro	Pro	Thr	Thr 805	Tyr	Gly	Tyr	Ile	Ser 810
Val	Pro	Thr	Ala	Ser 815	Glu	Phe	Thr	Asp	Met 820	Gly	Arg	Thr	Gly	Gly 825

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Gly Val Gly Pro Lys Gly Gly Val Leu Cys Pro Pro Arg Pro
Cys Leu Thr Pro Thr Pro Ser Glu Gly Ser Leu Ala Asn Gly Trp
                                     850
                 845
Gly Ser Ala Ser Glu Asp Asn Ala Ala Ser Ala Arg Ala Ser Leu
Val Ser Ser Ser Asp Gly Ser Phe Leu Ala Asp Ala His Phe Ala
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Arg Ala Leu Ala Val Ala Val Asp Ser Phe Gly Phe Gly Leu Glu
Pro Arg Glu Ala Asp Cys Val Phe Ile Asp Ala Ser Ser Pro Pro
                 905
                                     910
Ser Pro Arg Asp Glu Ile Phe Leu Thr Pro Asn Leu Ser Leu Pro
                                     925
                 920
Leu Trp Glu Trp Arg Pro Asp Trp Leu Glu Asp Met Glu Val Ser
                                     940
                 935
His Thr Gln Arg Leu Gly Arg Gly Met Pro Pro Trp Pro Pro Asp
                                     955
Ser Gln Ile Ser Ser Gln Arg Ser Gln Leu His Cys Arg Met Pro
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Lys Ala Gly Ala Ser Pro Val Asp Tyr Ser
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<213> Homo sapiens
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<221> unsure
<222> 1869, 1887
<223> unknown base
<400> 215
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 ttgcctgctg ctcccaggtt atgaagccct ggagggccca gaggaaatca 100
 gcgggttcga aggggacact gtgtccctgc agtgcaccta cagggaagag 150
 ctgagggacc accggaagta ctggtgcagg aagggtggga tcctcttctc 200
 togotgotot ggcaccatot atgcagaaga agaaggccag gagacaatga 250
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 cgaaaaacgg ggccccgatg agtctttact gatctctctg ttcgtctttc 400
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 aggaagctca acaggccacg gagacacaga ggaacgagaa gttctggctc 900
 tcacgcttga ctgcggagga aaaggaagcc ccttcccagg cccctgaggg 950
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cagtgaagca gtatggctgg ctggatcagc accgattccc gaaagctttc 1100 cacctcagcc tcagagtcca gctgcccgga ctccagggct ctccccaccc 1150 tccccaggct ctcctcttgc atgttccagc ctgacctaga agcgtttgtc 1200 agccctggag cccagagcgg tggccttgct cttccggctg gagactggga 1250 catecetgat aggtteacat ecetgggeag agtaceagge tgetgaceet 1300 cagcagggcc agacaaggct cagtggatct ggtctgagtt tcaatctgcc 1350 aggaacteet gggeeteatg eecagtgteg gaccetgeet teeteecact 1400 ccaqacccca ccttqtcttc cctccctqqc qtcctcaqac ttagtcccac 1450 ggtctcctgc atcagctggt gatgaagagg agcatgctgg ggtgagactg 1500 qqattctqqc ttctctttga accacctgca tccagccctt caggaagcct 1550 gtgaaaaacg tgattcctgg ccccaccaag acccaccaaa accatctctg 1600 ggcttggtgc aggactctga attctaacaa tgcccagtga ctgtcgcact 1650 tgagtttgag ggccagtggg cctgatgaac gctcacaccc cttcagctta 1700 gagtctgcat ttgggctgtg acgtctccac ctgccccaat agatctgctc 1750 tgtctgcgac accagatcca cgtggggact cccctgaggc ctgctaagtc 1800 caggccttgg tcaggtcagg tgcacattgc aggataagcc caggaccggc 1850 acagaagtgg ttgcctttnc catttgccct ccctggncca tgccttcttg 1900 cctttggaaa aaatgatgaa gaaaaccttg gctccttcct tgtctggaaa 1950 gggttacttg cctatgggtt ctggtggcta gagagaaaag tagaaaacca 2000 gagtgcacgt aggtgtctaa cacagaggag agtaggaaca gggcggatac 2050 ctgaaggtga ctccgagtcc agcccctgg agaaggggtc gggggtggtg 2100 gtaaagtagc acaactacta ttttttttct ttttccatta ttattgtttt 2150 ttaaqacaqa atctcqtqct qctqcccaqq ctqqaqtqca qtqgcacqat 2200 ctgcaaactc cgcctcctgg gttcaagtga ttcttctgcc tcagcctccc 2250 gagtagctgg gattacaggc acgcaccacc acacctggct aatttttgta 2300 cttttagtag agatggggtt tcaccatgtt ggccaggctg gtcttgaact 2350 cctgacctca aatgagcctc ctgcttcagt ctcccaaatt gccgggatta 2400 caggcatgag ccactgtgtc tggccctatt tcctttaaaa agtgaaatta 2450

<210> 216

<211> 332

<212> PRT

<213> Homo sapiens

<400> 216

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Tyr Glu Ala Leu Glu Gly Pro Glu Glu Ile Ser Gly Phe Glu Gly
20 25 30

Asp Thr Val Ser Leu Gln Cys Thr Tyr Arg Glu Glu Leu Arg Asp 35 40 45

His Arg Lys Tyr Trp Cys Arg Lys Gly Gly Ile Leu Phe Ser Arg
50 55 60

Cys Ser Gly Thr Ile Tyr Ala Glu Glu Glu Gly Gln Glu Thr Met
65 70 75

Lys Gly Arg Val Ser Ile Arg Asp Ser Arg Gln Glu Leu Ser Leu 80 85 90

Ile Val Thr Leu Trp Asn Leu Thr Leu Gln Asp Ala Gly Glu Tyr 95 100 105

Trp Cys Gly Val Glu Lys Arg Gly Pro Asp Glu Ser Leu Leu Ile 110 115 120

Ser Leu Phe Val Phe Pro Gly Pro Cys Cys Pro Pro Ser Pro Ser 125 130 135

Pro Thr Phe Gln Pro Leu Ala Thr Thr Arg Leu Gln Pro Lys Ala 140 145 150

Lys Ala Gln Gln Thr Gln Pro Pro Gly Leu Thr Ser Pro Gly Leu
155 160 165

Tyr Pro Ala Ala Thr Thr Ala Lys Gln Gly Lys Thr Gly Ala Glu 170 175 180

Ala Pro Pro Leu Pro Gly Thr Ser Gln Tyr Gly His Glu Arg Thr 185 190 195

Ser Gln Tyr Thr Gly Thr Ser Pro His Pro Ala Thr Ser Pro Pro

210 200 205 Ala Gly Ser Ser Arg Pro Pro Met Gln Leu Asp Ser Thr Ser Ala Glu Asp Thr Ser Pro Ala Leu Ser Ser Gly Ser Ser Lys Pro Arg 230 240 Val Ser Ile Pro Met Val Arg Ile Leu Ala Pro Val Leu Val Leu 245 Leu Ser Leu Leu Ser Ala Ala Gly Leu Ile Ala Phe Cys Ser His 260 Leu Leu Trp Arg Lys Glu Ala Gln Gln Ala Thr Glu Thr Gln 280 Arg Asn Glu Lys Phe Trp Leu Ser Arg Leu Thr Ala Glu Glu Lys 295 290 Glu Ala Pro Ser Gln Ala Pro Glu Gly Asp Val Ile Ser Met Pro Pro Leu His Thr Ser Glu Glu Glu Leu Gly Phe Ser Lys Phe Val 330 Ser Ala <210> 217 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 217 ccctgcagtg cacctacagg gaag 24 <210> 218 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 218 ctgtcttccc ctgcttggct gtgg 24 <210> 219 <211> 47 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe

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<212> DNA
<213> Homo sapiens
<400> 220
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 ggggtggcag gagccgcaga gccagagcag acagccgaga aacaggtgga 100
 cagtgtgaaa gaaccagtgg tctcgctctg ttgcccaggc tagagtgtac 150
 tgqcgtgatc atagctcact gcagcctcag actcctggac ttgagaaatc 200
 ctcctgcctt agcctcctgc atatctggga ctccaggggt gcactcaagc 250
 cctgtttctt ctccttctgt gagtggacca cggaggctgg tgagctgcct 300
 gtcatcccaa agctcagctc tgagccagag tggtggtggc tccacctctg 350
 ccgccggcat agaagccagg agcagggctc tcagaaggcg gtggtgccca 400
 gctgggatca tgttgttggc cctggtctgt ctgctcagct gcctgctacc 450
 ctccagtgag gccaagctct acggtcgttg tgaactggcc agagtgctac 500
 atgacttcgg gctggacgga taccggggat acagcctggc tgactgggtc 550
 tgccttgctt atttcacaag cggtttcaac gcagctgctt tggactacga 600
 qqctqatqqq aqcaccaaca acqqqatctt ccagatcaac agccggaggt 650
 ggtgcagcaa cctcaccccg aacgtcccca acgtgtgccg gatgtactgc 700
 tcagatttgt tgaatcctaa tctcaaggat accgttatct gtgccatgaa 750
 gataacccaa gagcctcagg gtctgggtta ctgggaggcc tggaggcatc 800
 actgccaggg aaaagacctc actgaatggg tggatggctg tgacttctag 850
 gatggacgga accatgcaca gcaggctggg aaatgtggtt tggttcctga 900
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<212> PRT
<213> Homo sapiens
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<400> 221

Met Leu Leu Ala Leu Val Cys Leu Leu Ser Cys Leu Leu Pro Ser 1 5 10 15

<210> 225

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Trp Val Cys Leu Ala Tyr Phe Thr Ser Gly Phe Asn Ala Ala Ala
Leu Asp Tyr Glu Ala Asp Gly Ser Thr Asn Asn Gly Ile Phe Gln
Ile Asn Ser Arg Arg Trp Cys Ser Asn Leu Thr Pro Asn Val Pro
Asn Val Cys Arg Met Tyr Cys Ser Asp Leu Leu Asn Pro Asn Leu
Lys Asp Thr Val Ile Cys Ala Met Lys Ile Thr Gln Glu Pro Gln
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Gly Leu Gly Tyr Trp Glu Ala Trp Arg His His Cys Gln Gly Lys
                                     130
Asp Leu Thr Glu Trp Val Asp Gly Cys Asp Phe
<210> 222
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<400> 222
gggatcatgt tgttggccct ggtc 24
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<223> Synthetic oligonucleotide probe
<400> 223
 gcaaggcaga cccagtcagc cag 23
<210> 224
<211> 45
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 224
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ctgcctgcta ccctccaagt gaggccaagc tctacggtcg ttgtg 45

<211> 2049 <212> DNA <213> Homo sapiens

<400> 225 agccgctgcc ccgggccggg cgcccgcggc ggcaccatga gtccccgctc 50 gtgcctgcgt tcgctgcgcc tcctcgtctt cgccgtcttc tcagccgccg 100 cgagcaactg gctgtacctg gccaagctgt cgtcggtggg gagcatctca 150 gaggaggaga cgtgcgagaa actcaagggc ctgatccaga ggcaggtgca 200 gatgtgcaag cggaacctgg aagtcatgga ctcggtgcgc cgcggtgccc 250 agctggccat tgaggagtgc cagtaccagt tccggaaccg gcgctggaac 300 tgctccacac tcgactcctt gcccgtcttc ggcaaggtgg tgacgcaagg 350 gactegggag geggeetteg tgtacgeeat etetteggea ggtgtggeet 400 ttgcagtgac gcgggcgtgc agcagtgggg agctggagaa gtgcggctgt 450 gacaggacag tgcatggggt cagcccacag ggcttccagt ggtcaggatg 500 ctctgacaac atcgcctacg gtgtggcctt ctcacagtcg tttgtggatg 550 tgcgggagag aagcaagggg gcctcgtcca gcagagccct catgaacctc 600 cacaacaatg aggccggcag gaaggccatc ctgacacaca tgcgggtgga 650 atgcaagtgc cacggggtgt caggctcctg tgaggtaaag acgtgctggc 700 gagccgtgcc gcccttccgc caggtgggtc acgcactgaa ggagaagttt 750 gatggtgcca ctgaggtgga gccacgccgc gtgggctcct ccagggcact 800 ggtaccacgc aacgcacagt tcaagccgca cacagatgag gacctggtgt 850 acttggagcc tagccccgac ttctgtgagc aggacatgcg cagcggcgtg 900 ctgggcacga ggggccgcac atgcaacaag acgtccaagg ccatcgacgg 950 ctgtgagctg ctgtgctgtg gccgcggctt ccacacggcg caggtggagc 1000 tggctgaacg ctgcagctgc aaattccact ggtgctgctt cgtcaagtgc 1050 cggcagtgcc agcggctcgt ggagttgcac acgtgccgat gaccgcctgc 1100 ctagccctgc gccggcaacc acctagtggc ccagggaagg ccgataattt 1150 aaacagtctc ccaccaccta ccccaagaga tactggttgt attttttgtt 1200 ctggtttggt ttttgggtcc tcatgttatt tattgccgaa accaggcagg 1250 caaccccaag ggcaccaacc agggcctccc caaagcctgg gcctttgtgg 1300 ctgccactga ccaaagggac cttgctcgtg ccgctggctg cccgcatgtg 1350 gctgccactg accactcagt tgttatctgt gtccgttttt ctacttgcag 1400 acctaaggtg gagtaacaag gagtattacc accacatggc tactgaccgt 1450 gtcatcgggg aagaggggc cttatggcag ggaaaatagg taccgacttg 1500 atggaagtca caccctctgg aaaaaagaac tcttaactct ccagcacaca 1550 tacacatgga ctcctggcag cttgagccta gaagccatgt ctctcaaatg 1600 ccctgagaaa gggaacaagc agataccagg tcaagggcac caggttcatt 1650 tcagccctta catggacagc tagaggttcg atatctgtgg gtccttccag 1700 gcaagaagag ggagatgaga gcaagagacg actgaagtcc caccctagaa 1750 cccagcctgc cccagcctgc ccctgggaag aggaaactta accactcccc 1800 agacccacct aggcaggcat ataggctgcc atcctggacc agggatcccg 1850 getgtgeett tgeagteatg ceegagteae ettteaeage getgtteete 1900 catgaaactg aaaaacacac acacacacac acacacaca acacacacac 1950 acacacaca ggacacacac acacacetge gagagagag gaggaaaggg 2000 ctgtgccttt gcagtcatgc ccgagtcacc tttcacagca ctgttcctc 2049

<210> 226

<211> 351

<212> PRT

<213> Homo sapiens

<400> 226

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Ala Val Phe Ser Ala Ala Ala Ser Asn Trp Leu Tyr Leu Ala Lys

Leu Ser Ser Val Gly Ser Ile Ser Glu Glu Glu Thr Cys Glu Lys

Leu Lys Gly Leu Ile Gln Arg Gln Val Gln Met Cys Lys Arg Asn

Leu Glu Val Met Asp Ser Val Arg Arg Gly Ala Gln Leu Ala Ile

Glu Glu Cys Gln Tyr Gln Phe Arg Asn Arg Arg Trp Asn Cys Ser 90

Thr Leu Asp Ser Leu Pro Val Phe Gly Lys Val Val Thr Gln Gly

Thr Arg Glu Ala Ala Phe Val Tyr Ala Ile Ser Ser Ala Gly Val 120

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Ala Phe Ala Val Thr Arg Ala Cys Ser Ser Gly Glu Leu Glu Lys
Cys Gly Cys Asp Arg Thr Val His Gly Val Ser Pro Gln Gly Phe
                                    145
                140
Gln Trp Ser Gly Cys Ser Asp Asn Ile Ala Tyr Gly Val Ala Phe
Ser Gln Ser Phe Val Asp Val Arg Glu Arg Ser Lys Gly Ala Ser
                170
Ser Ser Arg Ala Leu Met Asn Leu His Asn Asn Glu Ala Gly Arg
Lys Ala Ile Leu Thr His Met Arg Val Glu Cys Lys Cys His Gly
                                                         210
Val Ser Gly Ser Cys Glu Val Lys Thr Cys Trp Arg Ala Val Pro
Pro Phe Arg Gln Val Gly His Ala Leu Lys Glu Lys Phe Asp Gly
Ala Thr Glu Val Glu Pro Arg Arg Val Gly Ser Ser Arg Ala Leu
                                    250
Val Pro Arg Asn Ala Gln Phe Lys Pro His Thr Asp Glu Asp Leu
                                     265
Val Tyr Leu Glu Pro Ser Pro Asp Phe Cys Glu Gln Asp Met Arg
                                     280
Ser Gly Val Leu Gly Thr Arg Gly Arg Thr Cys Asn Lys Thr Ser
Lys Ala Ile Asp Gly Cys Glu Leu Leu Cys Cys Gly Arg Gly Phe
His Thr Ala Gln Val Glu Leu Ala Glu Arg Cys Ser Cys Lys Phe
His Trp Cys Cys Phe Val Lys Cys Arg Gln Cys Gln Arg Leu Val
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Glu Leu His Thr Cys Arg 350

<210> 227

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 227

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<211> 28
<212> DNA
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<220>
<223> Synthetic oligonucleotide probe
<400> 228
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<210> 229
<211> 41
<212> DNA
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<210> 230
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<213> Homo sapiens
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 aggagacccc tcttcttggc cctggctgtc ctggtcacca cagtcctttg 200
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 gcgagccgtg ccccacgtcg tggctgtcct tcgagggctc ctgctacttt 600
 ttctctqtqc caaagacgac gtgggcggcg gcgcaggatc actgcgcaga 650
 tgccagcgcg cacctggtga tcgttggggg cctggatgag cagggcttcc 700
 tcactcggaa cacgcgtggc cgtggttact ggctgggcct gagggctgtg 750
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cgccatctgg gcaaggttca gggctaccag tgggtggacg gagtctctct 800 cagcttcagc cactggaacc agggagagcc caatgacgct tggggggcgcg 850 agaactgtgt catgatgctg cacacggggc tgtggaacga cgcaccgtgt 900 gacagcgaga aggacggctg gatctgtgag aaaaggcaca actgctgacc 950 ccgcccagtg ccctggagcc gcgccattg cagcatgtcg tatcctgggg 1000 gctgctcacc tccctggctc ctggagctga ttgccaaaga gttttttct 1050 tcctcatcca ccgctgctga gtctcagaaa cacttggccc aacatagccc 1100 tgtccagccc agtgcctggg ctctgggacc tccatgccga cctcatccta 1150 actccactca cgcagacca acctaacctc cactagctcc aaaatccctg 1200 ctcctgggg actggagcg tttggtttc tcgcatttc caccaaactg 1250 gtgactgagg actggagctg tttggtttc tcgcattttc caccaaactg 1300 gaagctgtt ttgcagcctg aggaagcatc aataaatat tgagaaatga 1350 aaaaa 1355

<210> 231

<211> 293

<212> PRT

<213> Homo sapiens

<400> 231

Met Asp Thr Thr Arg Tyr Ser Lys Trp Gly Gly Ser Ser Glu Glu
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Val Pro Gly Gly Pro Trp Gly Arg Trp Val His Trp Ser Arg Arg 20 25 30

Pro Leu Phe Leu Ala Leu Ala Val Leu Val Thr Thr Val Leu Trp 35 40 45

Ala Val Ile Leu Ser Ile Leu Leu Ser Lys Ala Ser Thr Glu Arg
50 55 60

Ala Ala Leu Leu Asp Gly His Asp Leu Leu Arg Thr Asn Ala Ser 65 70 75

Lys Gln Thr Ala Ala Leu Gly Ala Leu Lys Glu Glu Val Gly Asp 80 85 90

Cys His Ser Cys Cys Ser Gly Thr Gln Ala Gln Leu Gln Thr Thr 95 100 105

Arg Ala Glu Leu Gly Glu Ala Gln Ala Lys Leu Met Glu Gln Glu 110 115 120

Ser Ala Leu Arg Glu Leu Arg Glu Arg Val Thr Gln Gly Leu Ala 125 130 135

<212> DNA

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Ala Leu Glu Ala Val Arg Leu Gln Asn Asn Ser Cys Glu Pro Cys
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                 155
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Val Pro Lys Thr Thr Trp Ala Ala Gln Asp His Cys Ala Asp
Ala Ser Ala His Leu Val Ile Val Gly Gly Leu Asp Glu Gln Gly
                                     205
Phe Leu Thr Arg Asn Thr Arg Gly Arg Gly Tyr Trp Leu Gly Leu
                 215
                                     220
Arg Ala Val Arg His Leu Gly Lys Val Gln Gly Tyr Gln Trp Val
Asp Gly Val Ser Leu Ser Phe Ser His Trp Asn Gln Gly Glu Pro
                                     250
                 245
Asn Asp Ala Trp Gly Arg Glu Asn Cys Val Met Met Leu His Thr
                 260
Gly Leu Trp Asn Asp Ala Pro Cys Asp Ser Glu Lys Asp Gly Trp
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 Ile Cys Glu Lys Arg His Asn Cys
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<210> 232
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<223> Synthetic oligonucleotide probe
<400> 232
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<210> 233
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<400> 233
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<210> 234
<211> 50
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 cctgggcaag gccctctgcg ctctcctcct ggccactctc ggcgccgccg 350
 gccagcctct tgggggagag tccatctgtt ccgccagagc cccggccaaa 400
 tacagcatca ccttcacggg caagtggagc cagacggcct tccccaagca 450
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 cgcccgccgt ccccagcggc accgggcaga cgtcggcgga gctggaggtg 700
 cagegeagge actegetggt etegtttgtg gtgegeateg tgeecagece 750
 cgactggttc gtgggcgtgg acagcctgga cctgtgcgac ggggaccgtt 800
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 ageggettea cetteteete ecceaactte gecaceatee egeaggaeae 900
 ggtgaccgag ataacgtcct cctctcccag ccacccggcc aactccttct 950
 actaccegeg getgaaggee etgeeteeca tegecagggt gacactgetg 1000
 cggctgcgac agagccccag ggccttcatc cctcccgccc cagtcctgcc 1050
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cagcagggac aatgagattg tagacagcgc ctcagttcca gaaacgccgc 1100

<210> 236

<211> 331

<212> PRT

<213> Homo sapiens

<400> 236

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Gly Glu Ser Ile Cys Ser Ala Arg Ala Pro Ala Lys Tyr Ser Ile 35 40 45

Thr Phe Thr Gly Lys Trp Ser Gln Thr Ala Phe Pro Lys Gln Tyr 50 55 60

Pro Leu Phe Arg Pro Pro Ala Gln Trp Ser Ser Leu Leu Gly Ala 65 70 75

Ala His Ser Ser Asp Tyr Ser Met Trp Arg Lys Asn Gln Tyr Val 80 85 90

Ser Asn Gly Leu Arg Asp Phe Ala Glu Arg Gly Glu Ala Trp Ala 95 100 105

Leu Met Lys Glu Ile Glu Ala Ala Gly Glu Ala Leu Gln Ser Val

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Thr	Ser	Ala	Glu	Leu 140	Glu	Val	Gln	Arg	Arg 145	His	Ser	Leu	Val	Ser 150
Phe	Val	Val	Arg	Ile 155	Val	Pro	Ser	Pro	Asp 160	Trp	Phe	Val	Gly	Val 165
Asp	Ser	Leu	Asp	Leu 170	Cys	Asp	Gly	Asp	Arg 175	Trp	Arg	Glu	Gln	Ala 180
Ala	Leu	Asp	Leu	Tyr 185	Pro	Tyr	Asp	Ala	Gly 190	Thr	Asp	Ser	Gly	Phe 195
Thr	Phe	Ser	Ser	Pro 200	Asn	Phe	Ala	Thr	Ile 205	Pro	Gln	Asp	Thr	Val 210
Thr	Glu	Ile	Thr	Ser 215	Ser	Ser	Pro	Ser	His 220	Pro	Ala	Asn	Ser	Phe 225
Tyr	Tyr	Pro	Arg	Leu 230	Lys	Ala	Leu	Pro	Pro 235	Ile	Ala	Arg	Val	Thr 240
Leu	Leu	Arg	Leu	Arg 245	Gln	Ser	Pro	Arg	Ala 250	Phe	Ile	Pro	Pro	Ala 255
Pro	Val	Leu	Pro	Ser 260	Arg	Asp	Asn	Glu	Ile 265	Val	Asp	Ser	Ala	Ser 270
Val	Pro	Glu	Thr	Pro 275	Leu	Asp	Cys	Glu	Val 280	Ser	Leu	Trp	Ser	Ser 285
Trp	Gly	Leu	Суѕ	Gly 290	Gly	His	Cys	Gly	Arg 295	Leu	Gly	Thr	Lys	Ser 300
Arg	Thr	Arg	Tyr	Val 305	Arg	Val	Gln	Pro	Ala 310	Asn	Asn	Gly	Ser	Pro 315
Cys	Pro	Glu	Leu	Glu 320	Glu	Glu	Ala	Glu	Cys 325	Val	Pro	Asp	Asn	Cys 330
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<212> PRT

<213> Homo sapiens

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Leu Leu Lys Thr Thr Ala Gly Asp Ile Asp Ile Glu Leu Trp Ser 20 25 30

Lys Glu Ala Pro Lys Ala Cys Arg Asn Phe Ile Gln Leu Cys Leu
35 40 45

Glu Ala Tyr Tyr Asp Asn Thr Ile Phe His Arg Val Val Pro Gly
50 55 60

Phe Ile Val Gln Gly Gly Asp Pro Thr Gly Thr Gly Ser Gly Gly 65 70 75

Glu Ser Ile Tyr Gly Ala Pro Phe Lys Asp Glu Phe His Ser Arg 80 85 90

Leu Arg Phe Asn Arg Arg Gly Leu Val Ala Met Ala Asn Ala Gly 95 100 105

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Asp	Glu	Leu	Asn	Asn 125	Lys	His	Thr	Ile	Phe 130	Gly	Lys	Val	Thr	Gly 135
Asp	Thr	Val	Tyr	Asn 140	Met	Leu	Arg	Leu	Ser 145	Glu	Val	Asp	Ile	Asp 150
Asp	Asp	Glu	Arg	Pro 155	His	Asn	Pro	His	Lys 160	Ile	Lys	Ser	Cys	Glu 165
Val	Leu	Phe	Asn	Pro 170	Phe	Asp	Asp	Ile	Ile 175	Pro	Arg	Glu	Ile	Lys 180
Arg	Leu	Lys	Lys	Glu 185	Lys	Pro	Glu	Glu	Glu 190	Val	Lys	Lys	Leu	Lys 195
Pro	Lys	Gly	Thr	Lys 200	Asn	Phe	Ser	Leu	Leu 205	Ser	Phe	Gly	Glu	Glu 210
Ala	Glu	Glu	Glu	Glu 215	Glu	Glu	Val	Asn	Arg 220	Val	Ser	Gln	Ser	Met 225
Lys	Gly	Lys	Ser	Lys 230	Ser	Ser	His	Asp	Leu 235	Leu	Lys	Asp	Asp	Pro 240
His	Leu	Ser	Ser	Val 245	Pro	Val	Val	Glu	Ser 250	Glu	Lys	Gly	Asp	Ala 255
Pro	Asp	Leu	Val	Asp 260	Asp	Gly	Glu	Asp	Glu 265	Ser	Ala	Glu	His	Asp 270
Glu	Tyr	Ile	Asp	Gly 275	Asp	Glu	Lys	Asn	Leu 280	Met	Arg	Glu	Arg	Ile 285
Ala	Lys	Lys	Leu	Lys 290	Lys	Asp	Thr	Ser	Ala 295	Asn	Val	Lys	Ser	Ala 300
Gly	Glu	Gly	Glu	Val 305	Glu	Lys	Lys	Ser	Val 310	Ser	Arg	Ser	Glu	Glu 315
Leu	Arg	Lys	Glu	Ala 320	Arg	Gln	Leu	Lys	Arg 325	Glu	Leu	Leu	Ala	Ala 330
Lys	Gln	Lys	Lys	Val 335	Glu	Asn	Ala	Ala	Lys 340	Gln	Ala	Glu	Lys	Arg 345
Ser	Glu	Glu	Glu	Glu 350	Ala	Pro	Pro	Asp	Gly 355	Ala	Val	Ala	Glu	Tyr 360
Arg	Arg	Glu	Lys	Gln 365	Lys	Tyr	Glu	Ala	Leu 370	Arg	Lys	Gln	Gln	Ser 375
Lys	Lys	Gly	Thr	Ser 380	Arg	Glu	Asp	Gln	Thr 385		Ala	Leu	Leu	Asn 390
Gln	Phe	Lys	Ser	Lys	Leu	Thr	Gln	Ala	Ile	Ala	Glu	Thr	Pro	Glu

400 405 395 Asn Asp Ile Pro Glu Thr Glu Val Glu Asp Asp Glu Gly Trp Met Ser His Val Leu Gln Phe Glu Asp Lys Ser Arg Lys Val Lys Asp 435 430 425 Ala Ser Met Gln Asp Ser Asp Thr Phe Glu Ile Tyr Asp Pro Arg Asn Pro Val Asn Lys Arg Arg Glu Glu Ser Lys Lys Leu Met 455 465 Arg Glu Lys Lys Glu Arg Arg <210> 246 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 246 tgcggagatc ctactggcac aggg 24 <210> 247 <211> 18 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 247 cgagttagtc agagcatg 18 <210> 248 <211> 18 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 248 cagatggtgc tgttgccg 18 <210> 249 <211> 29 <212> DNA <213> Artificial Sequence

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<212> PRT

<213> Homo sapiens

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Gly Thr Gly Thr Ser Ser Asn Pro Ser Val Gly Leu Asn Phe Gly 35 40 45

Asn Leu Gly Ser Thr Ser Thr Pro Ala Thr Thr Ser Ala Pro Ser 50 55 60

Ser Gly Phe Gly Thr Gly Leu Phe Gly Ser Lys Pro Ala Thr Gly 65 70 75

Phe Thr Leu Gly Gly Thr Asn Thr Gly Ala Leu His Thr Lys Arg 80 85 90

Pro Gln Val Val Thr Lys Tyr Gly Thr Leu Gln Gly Lys Gln Met 95 100 105

His Val Gly Lys Thr Pro Ile Gln Val Phe Leu Gly Val Pro Phe 110 115 120

Ser Arg Pro Pro Leu Gly Ile Leu Arg Phe Ala Pro Pro Glu Pro 125 130 135

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Ser	Arg	Leu	Thr	Ala 170	Thr	Ser	Ala	Ser	Arg 175	Val	Gln	Ala	Ser	Leu 180
Leu	Pro	Gln	Pro	Leu 185	Ser	Val	Trp	Gly	Tyr 190	Arg	Суз	Leu	Gln	Glu 195
Ser	Trp	Gly	Gln	Leu 200	Ala	Ser	Met	Tyr	Val 205	Ser	Thr	Arg	Glu	Arg 210
Tyr	Lys	Trp	Leu	Arg 215	Phe	Ser	Glu	Asp	Cys 220	Leu	Tyr	Leu	Asn	Val 225
Tyr	Ala	Pro	Ala	Arg 230	Ala	Pro	Gly	Asp	Pro 235	Gln	Leu	Pro	Val	Met 240
Val	Trp	Phe	Pro	Gly 245	Gly	Ala	Phe	Ile	Val 250	Gly	Ala	Ala	Ser	Ser 255
Tyr	Glu	Gly	Ser	Asp 260	Leu	Ala	Ala	Arg	Glu 265	Lys	Val	Val	Leu	Val 270
Phe	Leu	Gln	His	Arg 275	Leu	Gly	Ile	Phe	Gly 280	Phe	Leu	Ser	Thr	Asp 285
Asp	Ser	His	Ala	Arg 290	Gly	Asn	Trp	Gly	Leu 295	Leu	Asp	Gln	Met	Ala 300
Ala	Leu	Arg	Trp	Val 305	Gln	Glu	Asn	Ile	Ala 310	Ala	Phe	Gly	Gly	Asp 315
Pro	Gly	Asn	Val	Thr 320	Leu	Phe	Gly	Gln	Ser 325	Ala	Gly	Ala	Met	Ser 330
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Arg	Ala	Ile	Ser	Gln 350	Ser	Gly	Thr	Ala	Leu 355	Phe	Arg	Leu	Phe	Ile 360
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Gly	Cys	Asn	His	Asn 380		Thr	Gln	Ile	Leu 385		Asn	Cys	Leu	Arg 390
Ala	Leu	Ser	Gly	Thr 395		Val	Met	Arg	Val 400		Asn	Lys	Met	Arg 405
Phe	Leu	Gln	Leu	Asn 410		Gln	Arg	Asp	Pro 415		Glu	Ile	Ile	Trp 420
Ser	Met	Ser	Pro	Val	Val	Asp	Gly	v Val	Val	Ile	Pro	Asp	Asp	Pro

425 430 433												
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Pro Arg Gln Asp Trp Thr Gly Ser Thr Pro Ala Tyr Gly Tyr Trp
50 55 60

Phe Lys Ala Val Thr Glu Thr Thr Lys Gly Ala Pro Val Ala Thr 65 70 75

Asn His Gln Ser Arg Glu Val Glu Met Ser Thr Arg Gly Arg Phe 80 85 90

Gln Leu Thr Gly Asp Pro Ala Lys Gly Asn Cys Ser Leu Val Ile 95 100 105

Arg Asp Ala Gln Met Gln Asp Glu Ser Gln Tyr Phe Phe Arg Val 110 115 120

Glu Arg Gly Ser Tyr Val Thr Tyr Asn Phe Met Asn Asp Gly Phe 125 130 135

Phe Leu Lys Val Thr Val Leu Ser Phe Thr Pro Arg Pro Gln Asp 140 145 150

His Asn Thr Asp Leu Thr Cys His Val Asp Phe Ser Arg Lys Gly

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Arg Asp Leu Val Ile Ser Ile Ser Arg Asp Asn Thr Pro Ala Leu 185 190 195

Glu Pro Gln Pro Gln Gly Asn Val Pro Tyr Leu Glu Ala Gln Lys 200 205 210

Gly Gln Phe Leu Arg Leu Leu Cys Ala Ala Asp Ser Gln Pro Pro 215 220 225

Ala Thr Leu Ser Trp Val Leu Gln Asn Arg Val Leu Ser Ser Ser 230 235 240

His Pro Trp Gly Pro Arg Pro Leu Gly Leu Glu Leu Pro Gly Val 245 250 250

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Gln	Ser	Leu	Cys	Leu 320	Val	Cys	Val	Thr	His 325	Ser	Ser	Pro	Pro	Ala 330
Arg	Leu	Ser	Trp	Thr 335	Gln	Arg	Gly	Gln	Val 340	Leu	Ser	Pro	Ser	Gln 345
Pro	Ser	Asp	Pro	Gly 350	Val	Leu	Glu	Leu	Pro 355	Arg	Val	Gln	Val	Glu 360
His	Glu	Gly	Glu	Phe 365	Thr	Cys	His	Ala	Arg 370	His	Pro	Leu	Gly	Ser 375
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Thr	Ala	Leu	Leu	Phe 410	Leu	Cys	Leu	Ala	Leu 415	Ile	Ile	Met	Lys	Ile 420
Leu	Pro	Lys	Arg	Arg 425	Thr	Gln	Thr	Glu	Thr 430	Pro	Arg	Pro	Arg	Phe 435
Ser	Arg	His	Ser	Thr 440	Ile	Leu	Asp	Tyr	Ile 445	Asn	Val	Val	Pro	Thr 450
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Ser	Pro	Arg	Thr	Pro 470	Pro	Pro	Pro	Gly	Ala 475	Pro	Ser	Pro	Glu	Ser 480
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Pro	Lys	Ser	Ser	Thr 500	Gln	Ala	Pro	Glu	Ser 505	Gln	Glu	Ser	Gln	Glu 510
Glu	Leu	His	Tyr	Ala 515	Thr	Leu	Asn	Phe	Pro 520	Gly	Val	Arg	Pro	Arg 525
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35 40 45

Val Trp Asn Gln Phe Phe Val Pro Glu Glu Met Asn Thr Thr Ser 50 55 60

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Ile	Ile	Asp	Glu	Arg 95	Thr	Gly	Asp	Ile	Tyr 100	Ala	Ile	Gln	Lys	Leu 105
Asp	Arg	Glu	Glu	Arg 110	Ser	Leu	Tyr	Ile	Leu 115	Arg	Ala	Gln	Val	Ile 120
Asp	Ile	Ala	Thr	Gly 125	Arg	Ala	Val	Glu	Pro 130	Glu	Ser	Glu	Phe	Val 135
Ile	Lys	Val	Ser	Asp 140	Ile	Asn	Asp	Asn	Glu 145	Pro	Lys	Phe	Leu	Asp 150
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Leu	Val	Ile	Gln	Val 170	Thr	Ala	Ser	Asp	Ala 175	Asp	Asp	Pro	Ser	Ser 180
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Tyr	Phe	Ser	Val	Glu 200	Pro	Thr	Thr	Gly	Val 205	Ile	Arg	Ile	Ser	Ser 210
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Val	Val	Ser	Ala	Thr 395	Asp	Pro	Asp	Asn	Arg 400	Lys	Ser	Pro	Ile	Arg 405
Tyr	Ser	Ile	Thr	Arg 410	Ser	Lys	Val	Phe	Asn 415	Ile	Asn	Asp	Asn	Gly 420
Thr	Ile	Thr	Thr	Ser 425	Asn	Ser	Leu	Asp	Arg 430	Glu	Ile	Ser	Ala	Trp 435
Tyr	Asn	Leu	Ser	Ile 440	Thr	Ala	Thr	Glu	Lys 445	Tyr	Asn	Ile	Glu	Gln 450
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Gln	Glu	Glu	Pro	Val 545	Phe	Tyr	Ile	Ser	Ile 550	Leu	Ile	Ala	Asp	Asn 555
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Cys	Asp	Cys	Gly	Asp 575	Ser	Gly	Ser	Thr	Gln 580	Thr	Cys	Gln	Tyr	Gln 585
Glu	Leu	Val	Leu	Ser 590	Met	Gly	Phe	Lys	Thr 595	Glu	Val	Ile	Ile	Ala 600
Ile	Leu	Ile	Cys	Ile 605	Met	Ile	Ile	Phe	Gly 610	Phe	Ile	Phe	Leu	Thr 615
Leu	Gly	Leu	Lys	Gln 620	Arg	Arg	Lys	Gln	Ile 625	Leu	Phe	Pro	Glu	Lys 630
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Ala Asn Thr Asp Pro Cys Ala Pro Pro Phe Asp Ser Leu Gln Thr 710 715 720

Tyr Ala Phe Glu Gly Thr Gly Ser Leu Ala Gly Ser Leu Ser Ser 725 730 735

Leu Glu Ser Ala Val Ser Asp Gln Asp Glu Ser Tyr Asp Tyr Leu 740 745 750

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Met Tyr Glu Gly Leu Trp Met Ser Cys Val Ser Gln Ser Thr Gly
50 55 60

Gln Ile Gln Cys Lys Val Phe Asp Ser Leu Leu Asn Leu Ser Ser 65 70 75

Thr Leu Gln Ala Thr Arg Ala Leu Met Val Val Gly Ile Leu Leu 80 85 90

Gly Val Ile Ala Ile Phe Val Ala Thr Val Gly Met Lys Cys Met 95 100 105

Lys Cys Leu Glu Asp Asp Glu Val Gln Lys Met Arg Met Ala Val 110 115 120

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Phe Thr Gly Trp Ala Ala Ala Ala Ser Leu Cys Leu Leu Gly Gly Ala 170

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<223> unknown base
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- <221> unsure
- <222> 34, 87, 138, 147, 163, 165-166, 172
- <223> unknown base
- <400> 277

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<210> 284 <211> 243 <212> PRT

<213> Homo sapiens

<400> 284

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Leu Lys Phe Arg Gly Pro Phe Thr Asp Val Val Thr Thr Asn Leu 20 25 30

Lys Leu Gly Asn Pro Thr Asp Arg Asn Val Cys Phe Lys Val Lys 35 40 45

Thr Thr Ala Pro Arg Arg Tyr Cys Val Arg Pro Asn Ser Gly Ile
50 55 60

Ile Asp Ala Gly Ala Ser Ile Asn Val Ser Val Met Leu Gln Pro 65 70 75

Phe Asp Tyr Asp Pro Asn Glu Lys Ser Lys His Lys Phe Met Val 80 85 90

Gln Ser Met Phe Ala Pro Thr Asp Thr Ser Asp Met Glu Ala Val 95 100 105

Trp Lys Glu Ala Lys Pro Glu Asp Leu Met Asp Ser Lys Leu Arg 110 115 120

Cys Val Phe Glu Leu Pro Ala Glu Asn Asp Lys Pro His Asp Val 125 130 135

Glu Ile Asn Lys Ile Ile Ser Thr Thr Ala Ser Lys Thr Glu Thr $140 \hspace{1.5cm} 145 \hspace{1.5cm} 150 \hspace{1.5cm}$

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Val Lys Lys Val Met Glu Glu Cys Lys Arg Leu Gln Gly Glu Val
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Gln Arg Leu Arg Glu Glu Asn Lys Gln Phe Lys Glu Glu Asp Gly
                                    190
Leu Arg Met Arg Lys Thr Val Gln Ser Asn Ser Pro Ile Ser Ala
                                                         210
Leu Ala Pro Thr Gly Lys Glu Glu Gly Leu Ser Thr Arg Leu Leu
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<213> Homo sapiens

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<223> unknown base

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<212> DNA
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<223> unknown base
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<213> Homo sapiens
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<213> Homo sapiens

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<223> Synthetic oligonucleotide probe
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<212> DNA
<213> Homo sapiens
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cttcacaaat tatgaatgat catgtgttga aagccacatt attttatgct 2350 atacattcta tgtatgaggt gctacatttt taggacaaag aattctgtaa 2400 tctttttcaa gaaagagtct ttttctcctt gacaaaatcc agcttttgta 2450 tgaggactat agggtgaatt ctctgattag taattttaga tatgtccttt 2500 cctaaaaatg aataaaattt atgaatatga 2530

<210> 296

<211> 413

<212> PRT

<213> Homo sapiens

<400> 296

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Thr Leu Ile Asp Gly Ser Glu Met Glu Trp Asp Phe Met Trp His 20 25 30

Leu Arg Lys Val Pro Arg Ile Val Ser Glu Arg Thr Phe His Leu 35 40 45

Thr Ser Pro Ala Phe Glu Ala Asp Ala Lys Met Met Val Asn Thr
50 55 60

Val Cys Gly Ile Glu Cys Gln Lys Glu Leu Pro Thr Pro Ser Leu 65 70 75

Ser Glu Leu Glu Asp Tyr Leu Ser Tyr Glu Thr Val Phe Glu Asn 80 85 90

Gly Thr Arg Thr Leu Thr Arg Val Lys Val Gln Asp Leu Val Leu 95 100 105

Glu Pro Thr Gln Asn Ile Thr Thr Lys Gly Val Ser Val Arg Arg 110 115 120

Lys Arg Gln Val Tyr Gly Thr Asp Ser Arg Phe Ser Ile Leu Asp 125 130 135

Lys Arg Phe Leu Thr Asn Phe Pro Phe Ser Thr Ala Val Lys Leu 140 145 150

Ser Thr Gly Cys Ser Gly Ile Leu Ile Ser Pro Gln His Val Leu 155 160 165

Thr Ala Ala His Cys Val His Asp Gly Lys Asp Tyr Val Lys Gly
170 175 180

Ser Lys Lys Leu Arg Val Gly Leu Leu Lys Met Arg Asn Lys Ser 185 190 195

Gly Gly Lys Lys Arg Arg Gly Ser Lys Arg Ser Arg Arg Glu Ala 200 205 210

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Ser Gly Gly Asp Gln Arg Glu Gly Thr Arg Glu His Leu Gln Glu
Arg Ala Lys Gly Gly Arg Arg Lys Lys Ser Gly Arg Gly Gln
                230
Arg Ile Ala Glu Gly Arg Pro Ser Phe Gln Trp Thr Arg Val Lys
                                    250
Asn Thr His Ile Pro Lys Gly Trp Ala Arg Gly Gly Met Gly Asp
Ala Thr Leu Asp Tyr Asp Tyr Ala Leu Leu Glu Leu Lys Arg Ala
His Lys Lys Lys Tyr Met Glu Leu Gly Ile Ser Pro Thr Ile Lys
                                    295
                290
Lys Met Pro Gly Gly Met Ile His Phe Ser Gly Phe Asp Asn Asp
                                    310
Arg Ala Asp Gln Leu Val Tyr Arg Phe Cys Ser Val Ser Asp Glu
                                    325
Ser Asn Asp Leu Leu Tyr Gln Tyr Cys Asp Ala Glu Ser Gly Ser
                                    340
Thr Gly Ser Gly Val Tyr Leu Arg Leu Lys Asp Pro Asp Lys Lys
                                    355
Asn Trp Lys Arg Lys Ile Ile Ala Val Tyr Ser Gly His Gln Trp
Val Asp Val His Gly Val Gln Lys Asp Tyr Asn Val Ala Val Arg
                                     385
Ile Thr Pro Leu Lys Tyr Ala Gln Ile Cys Leu Trp Ile His Gly
                                     400
Asn Asp Ala Asn Cys Ala Tyr Gly
                410
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- <210> 297
- <211> 24
- <212> DNA
- <213> Artificial Sequence
- <220>
- <223> Synthetic oligonucleotide probe
- <400> 297
- gcatctgcag gagagagcga aggg 24
- <210> 298
- <211> 24
- <212> DNA
- <213> Artificial Sequence

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<220>
<223> Synthetic oligonucleotide probe
<400> 298
catcgttccc gtgaatccag aggc 24
<210> 299
<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 299
gaagggaggc cttcctttca gtggacccgg gtcaagaata cccac 45
<210> 300
<211> 1869
<212> DNA
<213> Homo sapiens
<400> 300
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 tgtccgattc tgattccggc aaggatccaa gcatggaatg ctgccgtcgg 150
 gcaactcctg gcacactgct cctctttctg gctttcctgc tcctgagttc 200
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 ctgaggcgct gcctgagcag caagagctgt gaaggaagaa atatccgata 350
 cagaacatgc agtaatgtgg actgcccacc agaagcaggt gatttccgag 400
 ctcagcaatg ctcagctcat aatgatgtca agcaccatgg ccagttttat 450
 gaatggcttc ctgtgtctaa tgaccctgac aacccatgtt cactcaagtg 500
 ccaagccaaa ggaacaaccc tggttgttga actagcacct aaggtcttag 550
atggtacgcg ttgctataca gaatctttgg atatgtgcat cagtggttta 600
tgccaaattg ttggctqcga tcaccagctg ggaagcaccg tcaaggaaga 650
taactgtggg gtctgcaacg gagatgggtc cacctgccgg ctggtccgag 700
ggcagtataa atcccagctc tccgcaacca aatcggatga tactgtggtt 750
gcacttccct atggaagtag acatattcgc cttgtcttaa aaggtcctga 800
tcacttatat ctggaaacca aaaccctcca ggggactaaa ggtgaaaaca 850
gtctcagctc cacaggaact ttccttgtgg acaattctag tgtggacttc 900
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cagaaatttc cagacaaaga gatactgaga atggctggac cactcacagc 950 agatttcatt gtcaagattc gtaactcggg ctccgctgac agtacagtcc 1000 agttcatctt ctatcaaccc atcatccacc gatggaggga gacggatttc 1050 tttccttgct cagcaacctg tggaggaggt tatcagctga catcggctga 1100 gtgctacgat ctgaggagca accgtgtggt tgctgaccaa tactgtcact 1150 attacccaga gaacatcaaa cccaaaccca agcttcagga gtgcaacttg 1200 gatecttgte cagecagtga eggatacaag cagateatge ettatgacet 1250 ctaccatece ettecteggt gggaggecae eccatggace gegtgeteet 1300 cctcgtgtgg ggggggcatc cagagccggg cagtttcctg tgtggaggag 1350 gacatccagg ggcatgtcac ttcagtggaa gagtggaaat gcatgtacac 1400 ccctaagatg cccatcgcgc agccctgcaa catttttgac tgccctaaat 1450 ggctggcaca ggagtggtct ccgtgcacag tgacatgtgg ccagggcctc 1500 agataccgtg tggtcctctg catcgaccat cgaggaatgc acacaggagg 1550 ctgtagccca aaaacaaagc cccacataaa agaggaatgc atcgtaccca 1600 ctccctgcta taaacccaaa gagaaacttc cagtcgaggc caagttgcca 1650 tggttcaaac aagctcaaga gctagaagaa ggagctgctg tgtcagagga 1700 gccctcgtaa gttgtaaaag cacagactgt tctatatttg aaactgtttt 1750 gtttaaagaa agcagtgtct cactggttgt agctttcatg ggttctgaac 1800 taagtgtaat catctcacca aagctttttg gctctcaaat taaagattga 1850 ttagtttcaa aaaaaaaaa 1869

<210> 301

<211> 525

<212> PRT

<213> Homo sapiens

<400> 301

Met Glu Cys Cys Arg Arg Ala Thr Pro Gly Thr Leu Leu Phe 1 5 10 15

Leu Ala Phe Leu Leu Ser Ser Arg Thr Ala Arg Ser Glu Glu 20 25 30

Asp Arg Asp Gly Leu Trp Asp Ala Trp Gly Pro Trp Ser Glu Cys 35 40 45

Ser Arg Thr Cys Gly Gly Gly Ala Ser Tyr Ser Leu Arg Arg Cys 50 55 60

Leu Ser Ser Lys Ser Cys Glu Gly Arg Asn Ile Arg Tyr Arg Thr Cys Ser Asn Val Asp Cys Pro Pro Glu Ala Gly Asp Phe Arg Ala Gln Gln Cys Ser Ala His Asn Asp Val Lys His His Gly Gln Phe Tyr Glu Trp Leu Pro Val Ser Asn Asp Pro Asp Asn Pro Cys Ser Leu Lys Cys Gln Ala Lys Gly Thr Thr Leu Val Val Glu Leu Ala 130 Pro Lys Val Leu Asp Gly Thr Arg Cys Tyr Thr Glu Ser Leu Asp Met Cys Ile Ser Gly Leu Cys Gln Ile Val Gly Cys Asp His Gln Leu Gly Ser Thr Val Lys Glu Asp Asn Cys Gly Val Cys Asn Gly Asp Gly Ser Thr Cys Arg Leu Val Arg Gly Gln Tyr Lys Ser Gln Leu Ser Ala Thr Lys Ser Asp Asp Thr Val Val Ala Leu Pro Tyr 200 Gly Ser Arg His Ile Arg Leu Val Leu Lys Gly Pro Asp His Leu Tyr Leu Glu Thr Lys Thr Leu Gln Gly Thr Lys Gly Glu Asn Ser 230 Leu Ser Ser Thr Gly Thr Phe Leu Val Asp Asn Ser Ser Val Asp Phe Gln Lys Phe Pro Asp Lys Glu Ile Leu Arg Met Ala Gly Pro Leu Thr Ala Asp Phe Ile Val Lys Ile Arg Asn Ser Gly Ser Ala Asp Ser Thr Val Gln Phe Ile Phe Tyr Gln Pro Ile Ile His Arg 290 Trp Arg Glu Thr Asp Phe Phe Pro Cys Ser Ala Thr Cys Gly Gly Gly Tyr Gln Leu Thr Ser Ala Glu Cys Tyr Asp Leu Arg Ser Asn Arg Val Val Ala Asp Gln Tyr Cys His Tyr Tyr Pro Glu Asn Ile Lys Pro Lys Pro Lys Leu Gln Glu Cys Asn Leu Asp Pro Cys Pro

350 355 360 Ala Ser Asp Gly Tyr Lys Gln Ile Met Pro Tyr Asp Leu Tyr His Pro Leu Pro Arg Trp Glu Ala Thr Pro Trp Thr Ala Cys Ser Ser 385 Ser Cys Gly Gly Gly Ile Gln Ser Arg Ala Val Ser Cys Val Glu Glu Asp Ile Gln Gly His Val Thr Ser Val Glu Glu Trp Lys Cys 410 415 420 Met Tyr Thr Pro Lys Met Pro Ile Ala Gln Pro Cys Asn Ile Phe 430 Asp Cys Pro Lys Trp Leu Ala Gln Glu Trp Ser Pro Cys Thr Val 450 Thr Cys Gly Gln Gly Leu Arg Tyr Arg Val Val Leu Cys Ile Asp His Arg Gly Met His Thr Gly Gly Cys Ser Pro Lys Thr Lys Pro 470 475 480 His Ile Lys Glu Glu Cys Ile Val Pro Thr Pro Cys Tyr Lys Pro 490 Lys Glu Lys Leu Pro Val Glu Ala Lys Leu Pro Trp Phe Lys Gln 505 510 Ala Gln Glu Leu Glu Glu Gly Ala Ala Val Ser Glu Glu Pro Ser 515 520 525

<210> 302

<211> 1533

<212> DNA

<213> Homo sapiens

<400> 302

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gctccaggaa gagcctaggc tggatgtctt gatcaataac gcagggatct 500 tocagtgccc ttacatgaag actgaagatg ggtttgagat gcagttcgga 550 gtgaaccatc tggggcactt tctactcacc aatcttctcc ttggactcct 600 caaaagttca gctcccagca ggattgtggt agtttcttcc aaactttata 650 aatacggaga catcaatttt gatgacttga acagtgaaca aagctataat 700 aaaaqctttt gttatagccg gagcaaactg gctaacattc tttttaccag 750 ggaactagcc cgccgcttag aaggcacaaa tgtcaccgtc aatgtgttgc 800 atcctggtat tgtacggaca aatctgggga ggcacataca cattccactg 850 ttggtcaaac cactcttcaa tttggtgtca tgggcttttt tcaaaactcc 900 agtagaaggt gcccagactt ccatttattt ggcctcttca cctgaggtag 950 aaggagtgtc aggaagatac tttggggatt gtaaagagga agaactgttg 1000 cccaaaqcta tqqatqaatc tqttqcaaqa aaactctggg atatcagtga 1050 agtgatggtt ggcctgctaa aataggaaca aggagtaaaa gagctgttta 1100 taaaactgca tatcagttat atctgtgatc aggaatggtg tggattgaga 1150 acttqttact tgaagaaaaa gaattttgat attggaatag cctgctaaga 1200 ggtacatgtg ggtattttgg agttactgaa aaattatttt tgggataaga 1250 gaatttcagc aaagatgttt taaatatata tagtaagtat aatgaataat 1300 aagtacaatg aaaaatacaa ttatattgta aaattataac tgggcaagca 1350 tggatgacat attaatattt gtcagaatta agtgactcaa agtgctatcg 1400 agaggttttt caagtatctt tgagtttcat ggccaaagtg ttaactagtt 1450 ttactacaat gtttggtgtt tgtgtggaaa ttatctgcct ggtgtgtgca 1500 cacaagtett acttggaata aatttactgg tac 1533

<210> 303

<211> 336

<212> PRT

<213> Homo sapiens

<400> 303

Met Ala Val Ala Thr Ala Ala Ala Val Leu Ala Ala Leu Gly Gly
1 5 10 15

Ala Leu Trp Leu Ala Ala Arg Arg Phe Val Gly Pro Arg Val Gln 20 25 30

Arg Leu Arg Arg Gly Gly Asp Pro Gly Leu Met His Gly Lys Thr 35 40 45

Val	Leu	Ile	Thr	Gly 50	Ala	Asn	Ser	Gly	Leu 55	Gly	Arg	Ala	Thr	Ala 60
Ala	Glu	Leu	Leu	Arg 65	Leu	Gly	Ala	Arg	Val 70	Ile	Met	Gly	Cys	Arg 75
Asp	Arg	Ala	Arg	Ala 80	Glu	Glu	Ala	Ala	Gly 85	Gln	Leu	Arg	Arg	Glu 90
Leu	Arg	Gln	Ala	Ala 95	Glu	Cys	Gly	Pro	Glu 100	Pro	Gly	Val	Ser	Gly 105
Val	Gly	Glu	Leu	Ile 110	Val	Arg	Glu	Leu	Asp 115	Leu	Ala	Ser	Leu	Arg 120
Ser	Val	Arg	Ala	Phe 125	Cys	Gln	Glu	Met	Leu 130	Gln	Glu	Glu	Pro	Arg 135
Leu	Asp	Val	Leu	Ile 140	Asn	Asn	Ala	Gly	Ile 145	Phe	Gln	Cys	Pro	Tyr 150
Met	Lys	Thr	Glu	Asp 155	Gly	Phe	Glu	Met	Gln 160	Phe	Gly	Val	Asn	His 165
Leu	Gly	His	Phe	Leu 170	Leu	Thr	Asn	Leu	Leu 175	Leu	Gly	Leu	Leu	Lys 180
Ser	Ser	Ala	Pro	Ser 185	Arg	Ile	Val	Val	Val 190	Ser	Ser	Lys	Leu	Tyr 195
Lys	Tyr	Gly	Asp	Ile 200	Asn	Phe	Asp	Asp	Leu 205	Asn	Ser	Glu	Gln	Ser 210
Tyr	Asn	Lys	Ser	Phe 215	Cys	Tyr	Ser	Arg	Ser 220	Lys	Leu	Ala	Asn	Ile 225
Leu	Phe	Thr	Arg	Glu 230	Leu	Ala	Arg	Arg	Leu 235	Glu	Gly	Thr	Asn	Val 240
Thr	Val	Asn	Val	Leu 245	His	Pro	Gly	Ile	Val 250	Arg	Thr	Asn	Leu	Gly 255
Arg	His	Ile	His	Ile 260	Pro	Leu	Leu	Val	Lys 265	Pro	Leu	Phe	Asn	Leu 270
Val	Ser	Trp	Ala	Phe 275	Phe	Lys	Thr	Pro	Val 280	Glu	Gly	Ala	Gln	Thr 285
Ser	Ile	Tyr	Leu	Ala 290	Ser	Ser	Pro	Glu	Val 295	Glu	Gly	Val	Ser	Gly 300
Arg	Tyr	Phe	Gly	Asp 305	Cys	Lys	Glu	Glu	Glu 310	Leu	Leu	Pro	Lys	Ala 315
Met	Asp	Glu	Ser	Val 320	Ala	Arg	Lys	Leu	Trp 325	Asp	Ile	Ser	Glu	Val 330
Met	Val	Gly	Leu	Leu	Lys									

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<211> 521
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 20, 34, 62, 87, 221, 229
<223> unknown base
<400> 304
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 ggaacaagga gtaaaagagc tgtttataaa actgcatatc agttatatct 150
 gtgatcagga atggtgtgga ttgagaactt gttacttgaa gaaaaagaat 200
 tttgatattg gaatagcctg ntaagaggna catgtgggta ttttggagtt 250
 actgaaaaat tatttttggg ataagagaat ttcagcaaag atgttttaaa 300
 tatatatagt aagtataatg aataataagt acaatgaaaa atacaattat 350
 attgtaaaat tataactggg caagcatgga tgacatatta atatttgtca 400
 gaattaagtg actcaaagtg ctatcgagag gtttttcaag tatctttgag 450
 tttcatggcc aaagtgttaa ctagttttac tacaatgttt ggtgtttgtg 500
 tggaaattat ctgcctggct t 521
<210> 305
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 305
ccaggaaatg ctccaggaag agcc 24
<210> 306
<211> 26
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 306
gcccatgaca ccaaattgaa gagtgg 26
<210> 307
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<211> 45
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 307
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<210> 308
<211> 1523
<212> DNA
<213> Homo sapiens
<400> 308
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 cggagcccag ccctttccta acccaaccca acctagccca gtcccagccg 100
 ccagcgcctg tccctgtcac ggaccccagc gttaccatgc atcctgccgt 150
 cttcctatcc ttacccgacc tcagatgctc ccttctgctc ctggtaactt 200
 gggtttttac tcctgtaaca actgaaataa caagtcttgc tacagagaat 250
 atagatgaaa ttttaaacaa tgctgatgtt gctttagtaa atttttatgc 300
 tgactggtgt cgtttcagtc agatgttgca tccaattttt gaggaagctt 350
 ccgatgtcat taaggaagaa tttccaaatg aaaatcaagt agtgtttgcc 400
agagttgatt gtgatcagca ctctgacata gcccagagat acaggataag 450
 caaataccca accctcaaat tgtttcgtaa tgggatgatg atgaagagag 500
aatacagggg tcagcgatca gtgaaagcat tggcagatta catcaggcaa 550
caaaaaagtg accccattca agaaattcgg gacttagcag aaatcaccac 600
tcttgatcgc agcaaaagaa atatcattgg atattttgag caaaaggact 650
cggacaacta tagagttttt gaacgagtag cgaatatttt gcatgatgac 700
tgtgcctttc tttctgcatt tggggatgtt tcaaaaccgg aaagatatag 750
tggcgacaac ataatctaca aaccaccagg gcattctgct ccggatatgg 800
tgtacttggg agctatgaca aattttgatg tgacttacaa ttggattcaa 850
gataaatgtg ttcctcttgt ccgagaaata acatttgaaa atggagagga 900
attgacagaa gaaggactgc cttttctcat actctttcac atgaaagaag 950
atacagaaag tttagaaata ttccagaatg aagtagctcg qcaattaata 1000
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<210> 309

<211> 406

<212> PRT

<213> Homo sapiens

<400> 309

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Leu Leu Leu Val Thr Trp Val Phe Thr Pro Val Thr Thr Glu 20 25 30

Ile Thr Ser Leu Ala Thr Glu Asn Ile Asp Glu Ile Leu Asn Asn 35 40 45

Ala Asp Val Ala Leu Val Asn Phe Tyr Ala Asp Trp Cys Arg Phe
50 55 60

Ser Gln Met Leu His Pro Ile Phe Glu Glu Ala Ser Asp Val Ile 65 70 75

Lys Glu Glu Phe Pro Asn Glu Asn Gln Val Val Phe Ala Arg Val 80 85 90

Asp Cys Asp Gln His Ser Asp Ile Ala Gln Arg Tyr Arg Ile Ser 95 100 105

Lys Tyr Pro Thr Leu Lys Leu Phe Arg Asn Gly Met Met Lys 110 115 120

Ile Arg Gln Gln Lys Ser Asp Pro Ile Gln Glu Ile Arg Asp Leu 140 145 150

Ala Glu Ile Thr Thr Leu Asp Arg Ser Lys Arg Asn Ile Ile Gly 155 160 165

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Tyr Phe Glu Gln Lys Asp Ser Asp Asn Tyr Arg Val Phe Glu Arg
Val Ala Asn Ile Leu His Asp Asp Cys Ala Phe Leu Ser Ala Phe
                185
Gly Asp Val Ser Lys Pro Glu Arg Tyr Ser Gly Asp Asn Ile Ile
Tyr Lys Pro Pro Gly His Ser Ala Pro Asp Met Val Tyr Leu Gly
                                    220
Ala Met Thr Asn Phe Asp Val Thr Tyr Asn Trp Ile Gln Asp Lys
Cys Val Pro Leu Val Arg Glu Ile Thr Phe Glu Asn Gly Glu Glu
                                    250
Leu Thr Glu Glu Gly Leu Pro Phe Leu Ile Leu Phe His Met Lys
Glu Asp Thr Glu Ser Leu Glu Ile Phe Gln Asn Glu Val Ala Arg
                275
Gln Leu Ile Ser Glu Lys Gly Thr Ile Asn Phe Leu His Ala Asp
                                    295
Cys Asp Lys Phe Arg His Pro Leu Leu His Ile Gln Lys Thr Pro
                305
                                    310
Ala Asp Cys Pro Val Ile Ala Ile Asp Ser Phe Arg His Met Tyr
                                     325
Val Phe Gly Asp Phe Lys Asp Val Leu Ile Pro Gly Lys Leu Lys
                335
Gln Phe Val Phe Asp Leu His Ser Gly Lys Leu His Arg Glu Phe
His His Gly Pro Asp Pro Thr Asp Thr Ala Pro Gly Glu Gln Ala
                                     370
                365
Gln Asp Val Ala Ser Ser Pro Pro Glu Ser Ser Phe Gln Lys Leu
                                     385
Ala Pro Ser Glu Tyr Arg Tyr Thr Leu Leu Arg Asp Arg Asp Glu
                                     400
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Leu

<210> 310

<211> 182

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

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<222> 36, 48
<223> unknown base
<400> 310
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 caaccctcaa attgtttcgt aatgggatga tgatgaagag agaatacagg 150
 ggtcagcgat cagtgaaagc attggcagat ta 182
<210> 311
<211> 598
<212> DNA
<213> Homo sapiens
<220>
<221> unsure
<222> 38, 59, 140, 169, 174, 183, 282-283, 294-295, 319, 396
<223> unknown base
<400> 311
 agaggeetet etggaagttg teeegggtgt tegeegengg ageeegggte 50
 gagaggacna ggtgccgctg cctggagaat cctccgctgc cgtcggctcc 100
 cggagcccag ccctttccta acccaaccca acctagcccn gtcccagccg 150
 ccagcgcctg tccctgtcnc ggancccagc gtnaccatgc atcctgccgt 200
 cttcctatcc ttacccgacc tcagatgctc ccttctgctc ctggtaactt 250
 gggtttttac tcctgtaaca actgaaataa cnngtcttga tacnnagaat 300
 atagatgaaa ttttaaacna tgctgatgtg gctttagtca atttttatgc 350
 tgactggtgt cgtttcagtc agatgtggca tccaattttt gaggangctt 400
 ccgatgtcat taaggaagaa tttccaaatg aaaatcaagt agtgtttgcc 450
 agagttgatt gtgatcagca ctctgacata gcccagagat acaggataag 500
 caaataccca accctcaaat tgtttcgtaa tgggatgatg atgaagagag 550
 aatacagggg tcagcgatca gtgaaagcat tggcagatta catcaggc 598
<210> 312
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 312
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tgagaggcct ctctggaagt tg 22

<212> DNA

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<210> 313
<211> 19
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 313
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<211> 1333
<212> DNA
<213> Homo sapiens
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 gcatttgatg agctgaagac tgattacaag aatcctatag accagtgtaa 150
 taccctgaat ccccttgtac tcccagagta cctcatccac gctttcttct 200
 gtgtcatgtt tctttgtgca gcagagtggc ttacactggg tctcaatatg 250
 cccctcttgg catatcatat ttggaggtat atgagtagac cagtgatgag 300
 tggcccagga ctctatgacc ctacaaccat catgaatgca gatattctag 350
 catattqtca qaaggaagga tggtgcaaat tagcttttta tcttctagca 400
 tttttttact acctatatgg catgatctat gttttggtga gctcttagaa 450
 caacacacag aagaattggt ccagttaagt gcatgcaaaa agccaccaaa 500
 tgaagggatt ctatccagca agatcctgtc caagagtagc ctgtggaatc 550
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tgatcagtta ctttaaaaaa tgactcctta ttttttaaat gtttccacat 600 ttttgcttgt ggaaagactg ttttcatatg ttatactcag ataaagattt 650 taaatggtat tacgtataaa ttaatataaa atgattacct ctggtgttga 700 caggtttgaa cttgcacttc ttaaggaaca gccataatcc tctgaatgat 750 gcattaatta ctgactgtcc tagtacattg gaagcttttg tttataggaa 800 cttgtagggc tcattttggt ttcattgaaa cagtatctaa ttataaatta 850 gctgtagata tcaggtgctt ctgatgaagt gaaaatgtat atctgactag 900 tgggaaactt catgggtttc ctcatctgtc atgtcgatga ttatatatgg 950 atacatttac aaaaataaaa agcgggaatt ttcccttcgc ttgaatatta 1000 tecetgtata ttgcatgaat gagagattte ceatatttee ateagagtaa 1050 taaatatact tgctttaatt cttaagcata agtaaacatg atataaaaat 1100 atatgctgaa ttacttgtga agaatgcatt taaagctatt ttaaatgtgt 1150 ttttatttqt aagacattac ttattaagaa attggttatt atgcttactg 1200 ttctaatctg gtggtaaagg tattcttaag aatttgcagg tactacagat 1250 tttcaaaact gaatgagaga aaattgtata accatcctgc tgttccttta 1300 gtgcaataca ataaaactct gaaattaaga ctc 1333

<210> 322

<211> 144

<212> PRT

<213> Homo sapiens

<400> 322

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Leu Thr Ala Ala Leu Ile Phe Phe Ala Ile Trp His Ile Ile Ala 20 25 30

Phe Asp Glu Leu Lys Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys 35 40 45

Asn Thr Leu Asn Pro Leu Val Leu Pro Glu Tyr Leu Ile His Ala 50 55 60

Phe Phe Cys Val Met Phe Leu Cys Ala Ala Glu Trp Leu Thr Leu 657075

Gly Leu Asn Met Pro Leu Leu Ala Tyr His Ile Trp Arg Tyr Met 80 85 90

Ser Arg Pro Val Met Ser Gly Pro Gly Leu Tyr Asp Pro Thr Thr 95 100 105

<400> 325

<210> 326

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Cys Lys Leu Ala Phe Tyr Leu Leu Ala Phe Phe Tyr Tyr Leu Tyr
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Gly Met Ile Tyr Val Leu Val Ser Ser
                 140
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<213> Homo sapiens
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 atatgcccct cttggcatat catatttgga ggtatatgag tagaccagtg 200
 atgagtggcc caggactcta tgaccctaca accatcatga atgcagatat 250
 tctagcatat tgtcagaagg aaggatggtg caaattagct ttttatcttc 300
 tagcattttt ttactaccta tatggcatga tctatgtttt ggtgagctct 350
 tagaacaaca cacagaagaa ttggtccagt taagtgcatg caaaaagcca 400
 ccaaatgaag ggattctatc cagcaagatc ctgtccaaga gtagcctgtg 450
 qaatctgatc agttacttta aaaaatg 477
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<400> 324
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217

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<223> Synthetic oligonucleotide probe
<400> 327
 actggaccaa ttcttctgtg 20
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<211> 45
<212> DNA
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<223> Synthetic oligonucleotide probe
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<211> 1174
<212> DNA
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 ggacccaact ggggctcccg ccgctgctgc tgctgaccat ggccttggcc 150
 ggaggttcgg ggaccgcttc ggctgaagca tttgactcgg tcttgggtga 200
 tacggcgtct tgccaccggg cctgtcagtt gacctacccc ttgcacacct 250
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 ggaatgtgaa totgoatgta cagaagcata ttoccaatot gatgagcaat 400
 atgcttgcca tcttggttgc cagaatcagc tgccattcgc tgaactgaga 450
 caagaacaac ttatgtccct gatgccaaaa atgcacctac tctttcctct 500
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<210> 330

<211> 323

<212> PRT

<213> Homo sapiens

<400> 330

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Leu Pro Pro Leu Leu Leu Thr Met Ala Leu Ala Gly Gly Ser 20 25 30

Gly Thr Ala Ser Ala Glu Ala Phe Asp Ser Val Leu Gly Asp Thr 35 40 45

Ala Ser Cys His Arg Ala Cys Gln Leu Thr Tyr Pro Leu His Thr 50 55 60

Tyr Pro Lys Glu Glu Glu Leu Tyr Ala Cys Gln Arg Gly Cys Arg
65 70 75

Leu Phe Ser Ile Cys Gln Phe Val Asp Asp Gly Ile Asp Leu Asn 80 85 90

Arg Thr Lys Leu Glu Cys Glu Ser Ala Cys Thr Glu Ala Tyr Ser 95 100 105

Gln Ser Asp Glu Gln Tyr Ala Cys His Leu Gly Cys Gln Asn Gln 110 115 120

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Pro Lys Met His Leu Leu Phe Pro Leu Thr Leu Val Arg Ser Phe
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                140
Trp Ser Asp Met Met Asp Ser Ala Gln Ser Phe Ile Thr Ser Ser
Trp Thr Phe Tyr Leu Gln Ala Asp Asp Gly Lys Ile Val Ile Phe
                                                         180
Gln Ser Lys Pro Glu Ile Gln Tyr Ala Pro His Leu Glu Gln Glu
Pro Thr Asn Leu Arg Glu Ser Ser Leu Ser Lys Met Ser Tyr Leu
                                                         210
                                     205
                200
Gln Met Arg Asn Ser Gln Ala His Arg Asn Phe Leu Glu Asp Gly
                                     220
Glu Ser Asp Gly Phe Leu Arg Cys Leu Ser Leu Asn Ser Gly Trp
                                                         240
                                     235
Ile Leu Thr Thr Thr Leu Val Leu Ser Val Met Val Leu Leu Trp
                                     250
Ile Cys Cys Ala Thr Val Ala Thr Ala Val Glu Gln Tyr Val Pro
                                     265
                                                         270
Ser Glu Lys Leu Ser Ile Tyr Gly Asp Leu Glu Phe Met Asn Glu
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Gln Lys Leu Asn Arg Tyr Pro Ala Ser Ser Leu Val Val Val Arg
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Ser Lys Thr Glu Asp His Glu Glu Ala Gly Pro Leu Pro Thr Lys
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<210> 331

<211> 350

<212> DNA

<213> Homo sapiens

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<400> 331

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 cqaaqqqaqc ctttgggtga ggacccaact ggggctcccg ccgctgctgc 150
 tgctgaccat ggccttggcc ggaggttcgg ggaccgcttc ggctgaagca 200
 tttgactcgg tcttgggtga tacggcgtct tgccaccggg cctgtcagtt 250
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 agagaggttg caggctgttt tcaatttgtc agtttgtgga tgatggaatt 350
 gacttaaatc gaactaaatt ggaatgtgaa tctgcatgta cagaagcata 400
 ttcccaatct gatgagcaat atgcttgcca tcttggttgc cagaatcagc 450
 tgccattcgc tgaactgaga caagaacaac ttatgtccct gatgccaaaa 500
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 gatggactcc gc 562
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.<223> Synthetic oligonucleotide probe
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<212> DNA
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 agggcgcacg gcccgcgacc gagcgtgcgg actggcctcc caagcgtggg 150
 gcgacaagct gccggagctg caatgggccg cggctgggga ttcttgtttg 200
 gcctcctggg cgccgtgtgg ctgctcagct cgggccacgg agaggagcag 250
 cccccggaga cagcggcaca gaggtgcttc tgccaggtta gtggttactt 300
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 ggcttttccc aagactacaa aaacttcttg aaagtgacta ctttaggtat 400
 tacaaggtaa acctgaagag gccgtgtcct ttctggaatg acatcagcca 450
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 ctcattgaag aatgtgaaca agctgaacga cttggagcag tggatgaatc 600
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 aaaaaqaqca ttctacaqac ttatatctgg cctacatgca agcattaatg 950
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<210> 337

<211> 468

<212> PRT

<213> Homo sapiens

<400> 337

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Ala Ala Gln Arg Cys Phe Cys Gln Val Ser Gly Tyr Leu Asp Asp 35 40 45

Cys Thr Cys Asp Val Glu Thr Ile Asp Arg Phe Asn Asn Tyr Arg
50 55 60

Leu Phe Pro Arg Leu Gln Lys Leu Leu Glu Ser Asp Tyr Phe Arg 65 70 75

Tyr	Tyr	Lys	Val	Asn 80	Leu	Lys	Arg	Pro	Cys 85	Pro	Phe	Trp	Asn	Asp 90
Ile	Ser	Gln	Cys	Gly 95	Arg	Arg	Asp	Cys	Ala 100	Val	Lys	Pro	Cys	Gln 105
Ser	Asp	Glu	Val	Pro 110	Asp	Gly	Ile	Lys	Ser 115	Ala	Ser	Tyr	Lys	Tyr 120
Ser	Glu	Glu	Ala	Asn 125	Asn	Leu	Ile	Glu	Glu 130	Суѕ	Glu	Gln	Ala	Glu 135
Arg	Leu	Gly	Ala	Val 140	Asp	Glu	Ser	Leu	Ser 145	Glu	Glu	Thr	Gln	Lys 150
Ala	Val	Leu	Gln	Trp 155	Thr	Lys	His	Asp	Asp 160	Ser	Ser	Asp	Asn	Phe 165
Cys	Glu	Ala	Asp	Asp 170	Ile	Gln	Ser	Pro	Glu 175	Ala	Glu	Tyr	Val	Asp 180
Leu	Leu	Leu	Asn	Pro 185	Glu	Arg	Tyr	Thr	Gly 190	Tyr	Lys	Gly	Pro	Asp 195
Ala	Trp	Lys	Ile	Trp 200	Asn	Val	Ile	Tyr	Glu 205	Glu	Asn	Cys	Phe	Lys 210
Pro	Gln	Thr	Ile	Lys 215	Arg	Pro	Leu	Asn	Pro 220	Leu	Ala	Ser	Gly	Gln 225
Gly	Thr	Ser	Glu	Glu 230	Asn	Thr	Phe	Tyr	Ser 235	Trp	Leu	Glu	Gly	Leu 240
Cys	Val	Glu	Lys	Arg 245	Ala	Phe	Tyr	Arg	Leu 250	Ile	Ser	Gly	Leu	His 255
Ala	Ser	Ile	Asn	Val 260	His	Leu	Ser	Ala	Arg 265	Tyr	Leu	Leu	Gln	Glu 270
Thr	Trp	Leu	Glu	Lys 275	Lys	Trp	Gly	His	Asn 280	Ile	Thr	Glu	Phe	Gln 285
Gln	Arg	Phe	Asp	Gly 290	Ile	Leu	Thr	Glu	Gly 295	Glu	Gly	Pro	Arg	Arg 300
Leu	Lys	Asn	Leu	Tyr 305	Phe	Leu	Tyr	Leu	Ile 310	Glu	Leu	Arg	Ala	Leu 315
Ser	Lys	Val	Leu	Pro 320	Phe	Phe	Glu	Arg	Pro 325	Asp	Phe	Gln	Leu	Phe 330
Thr	Gly	Asn	Lys	Ile 335	Gln	Asp	Glu	Glu	Asn 340	Lys	Met	Leu	Leu	Leu 345
Glu	Ile	Leu	His	Glu 350	Ile	Lys	Ser	Phe	Pro 355	Leu	His	Phe	Asp	Glu 360
Asn	Ser	Phe	Phe	Ala	Gly	Asp	Lys	Lys	Glu	Ala	His	Lys	Leu	Lys

370 375 365 Glu Asp Phe Arg Leu His Phe Arg Asn Ile Ser Arg Ile Met Asp 380 Cys Val Gly Cys Phe Lys Cys Arg Leu Trp Gly Lys Leu Gln Thr 400 Gln Gly Leu Gly Thr Ala Leu Lys Ile Leu Phe Ser Glu Lys Leu 415 410 Ile Ala Asn Met Pro Glu Ser Gly Pro Ser Tyr Glu Phe His Leu 435 430 Thr Arg Gln Glu Ile Val Ser Leu Phe Asn Ala Phe Gly Arg Ile Ser Thr Ser Val Lys Glu Leu Glu Asn Phe Arg Asn Leu Leu Gln 465 460 455 Asn Ile His <210> 338 <211> 507 <212> DNA <213> Homo sapiens <220> <221> unsure <222> 101, 263, 376, 397, 426 <223> unknown base <400> 338 gctggaaata tggatgtcat ctacgagaaa ctgttttaag ccacagacaa 50 ttaaaagacc tttaaatcct ttggcttctg gtcaagggac aagtgaagag 100 nacacttttt acagttggct agaaggtctc tgtgtagaaa aaagagcatt 150 ctacagactt atatctggcc tacatgcaag cattaatgtg catttgagtg 200 caagatatct tttacaagag acctggttag aaaagaaatg gggacacaac 250 attacagaat ttnaacagcg atttgatgga attttgactg aaggagaagg 300 tccaagaagg cttaagaact tgtattttct ctacttaata gaactaaggg 350 ctttatccaa agtgttacca ttcttngagc gcccagattt tcaactnttt 400 actggaaata aaattcagga tgaggnaaac aaaatgttac ttttggaaat 450 acttcatgaa atcaagtcat ttcctttgca ttttgatgag aattcatttt 500 tttgctg 507

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<211> 124

<212> PRT

<213> Homo sapiens

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Leu Thr Gly Leu Cys Ser Pro Phe Asn Leu Asp Glu His His Pro
20 25 30

Arg Leu Phe Pro Gly Pro Pro Glu Ala Glu Phe Gly Tyr Ser Val 35 40 45

Leu Gln His Val Gly Gly Gln Arg Trp Met Leu Val Gly Ala
50 55 60

Pro Trp Asp Gly Pro Ser Gly Asp Arg Arg Gly Asp Val Tyr Arg
65 70 75

Cys Pro Val Gly Gly Ala His Asn Ala Pro Cys Ala Lys Gly His 80 85 90

Leu Gly Asp Tyr Gln Leu Gly Asn Ser Ser His Pro Ala Val Asn 95 100 105

Met His Leu Gly Met Ser Leu Leu Glu Thr Asp Gly Asp Gly Gly 110 115 120

Phe Met Val Ser

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<211> 509

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 22

<223> unknown base

<400> 347

<212> DNA

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 gggggtggac agcgatggat gctggtgggc gccccctggg atgggccttc 350
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<211> 311

<212> PRT

<213> Homo sapiens

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Phe Met Trp Phe Phe Tyr Ala Leu Ile Pro Cys Leu Leu Thr Asp 20 25 30

Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser 35 40 45

Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro 50 55 60

Gly Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu
65 70 75

Ser Leu Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser 80 85 90

Leu Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala 95 100 105

Thr Val Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln
110 115 120

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Thr Ile Leu Thr Arg Pro Gly Met Glu Ile Thr Lys Asp Gly Phe
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Leu Val Ala Tyr Trp Arg Arg Glu Pro Gly Ala Glu Glu His Val
Lys Met Val Arg Ser Gly Gly Ile Pro Val His Leu Glu Thr Met
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Glu Pro Gly Ala Ala Tyr Cys Val Lys Ala Gln Thr Phe Val Lys
                                                         210
                                     205
Ala Ile Gly Arg Tyr Ser Ala Phe Ser Gln Thr Glu Cys Val Glu
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Val Gln Gly Glu Ala Ile Pro Leu Val Leu Ala Leu Phe Ala Phe
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Val Gly Phe Met Leu Ile Leu Val Val Val Pro Leu Phe Val Trp
                245
                                     250
Lys Met Gly Arg Leu Leu Gln Tyr Ser Cys Cys Pro Val Val Val
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                260
Leu Pro Asp Thr Leu Lys Ile Thr Asn Ser Pro Gln Lys Leu Ile
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Ser Cys Arg Arg Glu Glu Val Asp Ala Cys Ala Thr Ala Val Met
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Pro Glu Asp Trp Trp Ser Tyr Lys Asp Asn Leu Gln Gly Asn Phe 35 40 45

Val Pro Gly Pro Pro Phe Trp Gly Leu Val Asn Ala Ala Trp Ser 50 55 60

Leu Cys Ala Val Gly Lys Arg Gln Ser Pro Val Asp Val Glu Leu 65 70 75

Lys Arg Val Leu Tyr Asp Pro Phe Leu Pro Pro Leu Arg Leu Ser 80 85 90

Thr Gly Gly Glu Lys Leu Arg Gly Thr Leu Tyr Asn Thr Gly Arg 95 100 105

His Val Ser Phe Leu Pro Ala Pro Arg Pro Val Val Asn Val Ser 110 115 120

Gly Gly Pro Leu Leu Tyr Ser His Arg Leu Ser Glu Leu Arg Leu 125 130 1,35

Leu Phe Gly Ala Arg Asp Gly Ala Gly Ser Glu His Gln Ile Asn 140 145 150

His Gln Gly Phe Ser Ala Glu Val Gln Leu Ile His Phe Asn Gln 155 160 165

Glu Leu Tyr Gly Asn Phe Ser Ala Ala Ser Arg Gly Pro Asn Gly

170 175 180 Leu Ala Ile Leu Ser Leu Phe Val Asn Val Ala Ser Thr Ser Asn Pro Phe Leu Ser Arg Leu Leu Asn Arg Asp Thr Ile Thr Arg Ile 205 200 Ser Tyr Lys Asn Asp Ala Tyr Phe Leu Gln Asp Leu Ser Leu Glu 220 Leu Leu Phe Pro Glu Ser Phe Gly Phe Ile Thr Tyr Gln Gly Ser 235 Leu Ser Thr Pro Pro Cys Ser Glu Thr Val Thr Trp Ile Leu Ile Asp Arg Ala Leu Asn Ile Thr Ser Leu Gln Met His Ser Leu Arg 265 260 Leu Leu Ser Gln Asn Pro Pro Ser Gln Ile Phe Gln Ser Leu Ser 280 275 Gly Asn Ser Arg Pro Leu Gln Pro Leu Ala His Arg Ala Leu Arg 290 295 Gly Asn Arg Asp Pro Arg His Pro Glu Arg Arg Cys Arg Gly Pro 310 Asn Tyr Arg Leu His Val Asp Gly Val Pro His Gly Arg 320 <210> 359 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 359 tctgctgagg tgcagctcat tcac 24 <210> 360 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 360 gaggetetgg aagatetgag atgg 24 <210> 361 <211> 50 <212> DNA

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Trp Trp Ile Ala Lys Gln Arg Gly Lys Arg Ala Ile Thr Asp Asn
50 55 60

Asp Met Gln Ser Ile Leu Asp Leu His Asn Lys Leu Arg Ser Gln 65 70 75

Val Tyr Pro Thr Ala Ser Asn Met Glu Tyr Met Thr Trp Asp Val 80 85 90

Glu Leu Glu Arg Ser Ala Glu Ser Trp Ala Glu Ser Cys Leu Trp 95 100 105

Glu His Gly Pro Ala Ser Leu Leu Pro Ser Ile Gly Gln Asn Leu 110 115 120

Gly Ala His Trp Gly Arg Tyr Arg Pro Pro Thr Phe His Val Gln 125 130 135

Ser Trp Tyr Asp Glu Val Lys Asp Phe Ser Tyr Pro Tyr Glu His

Glu Cys Asn Pro Tyr Cys Pro Phe Arg Cys Ser Gly Pro Val Cys 155 160 165

Thr His Tyr Thr Gln Val Val Trp Ala Thr Ser Asn Arg Ile Gly

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Cys Ala Ile	Asn Leu 185	Cys	His	Asn	Met	Asn 190	Ile	Trp	Gly	Gln	Ile 195
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Asn Trp Trp	Gly His 215	Ala	Pro	Tyr	Lys	His 220	Gly	Arg	Pro	Cys	Ser 225
Ala Cys Pro	Pro Ser 230	Phe	Gly	Gly	Gly	Cys 235	Arg	Glu	Asn	Leu	Cys 240
Tyr Lys Glu	Gly Ser 245	Asp	Arg	Tyr	Tyr	Pro 250	Pro	Arg	Glu	Glu	Glu 255
Thr Asn Glu	Ile Glu 260	Arg	Gln	Gln	Ser	Gln 265	Val	His	Asp	Thr	His 270
Val Arg Thr	Arg Ser 275	Asp	Asp	Ser	Ser	Arg 280	Asn	Glu	Val	Ile	Ser 285
Ala Gln Gln	Met Ser 290	Gln	Ile	Val	Ser	Cys 295	Glu	Val	Arg	Leu	Arg 300
Asp Gln Cys	Lys Gly 305	Thr	Thr	Cys	Asn	Arg 310	Tyr	Glu	Cys	Pro	Ala 315
Gly Cys Leu	Asp Ser 320	Lys	Ala	Lys	Val	Ile 325	Gly	Ser	Val	His	Tyr 330
Glu Met Gln	Ser Ser 335	Ile	Cys	Arg	Ala	Ala 340	Ile	His	Tyr	Gly	Ile 345
Ile Asp Asn	Asp Gly 350	Gly	Trp	Val	Asp	Ile 355	Thr	Arg	Gln	Gly	Arg 360
Lys His Tyr	Phe Ile 365	Lys	Ser	Asn	Arg	Asn 370	Gly	Ile	Gln	Thr	Ile 375
Gly Lys Tyr	Gln Ser 380	Ala	Asn	Ser	Phe	Thr 385	Val	Ser	Lys	Val	Thr 390
Val Gln Ala	Val Thr 395	Cys	Glu	Thr	Thr	Val 400	Glu	Gln	Leu	Cys	Pro 405
Phe His Lys	Pro Ala 410	Ser	His	Cys	Pro	Arg 415	Val	Tyr	Cys	Pro	Arg 420
Asn Cys Met	Gln Ala 425	Asn	Pro	His	Tyr	Ala 430	Arg	Val	Ile	Gly	Thr 435
Arg Val Tyr	Ser Asp 440	Leu	Ser	Ser	Ile	Cys 445	Arg	Ala	Ala	Val	His 450
Ala Gly Val	Val Arg 455	Asn	His	Gly	Gly	Tyr 460	Val	Asp	Val	Met	Pro 465

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Ile Arg Tyr Ser Asp Val Lys Lys Leu Glu Met Lys Pro Lys Tyr
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Pro His Cys Glu Glu Lys Met Val Ile Ile Thr Thr Lys Ser Val 65 70 75

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Glu Ile Leu Gly Pro Val Glu Gln Tyr Leu Gly Val Pro Tyr Ala

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Cys	Pro	Gln	His	Leu 95	Asp	Glu	Arg	Ser	Leu 100	Leu	His	Asp	Met	Leu 105
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Lys	Val	Ala	Phe	Trp 590	Leu	Glu	Leu	Val	Pro 595	His	Leu	His	Asn	Leu 600
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Pro	Asp	Met	Thr	Ser 620		Pro	Tyr	Gly	Thr 625		· Arg	Ser	Pro	Ala 630
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Ser Va	l Thr	Ile	Ala 680	Val	Gly	Ala	Ser	Leu 685	Leu	Phe	Leu	Asn	Ile 690
Leu Al	a Phe	Ala	Ala 695	Leu	Tyr	Tyr	Lys	Lys 700	Asp	Lys	Arg	Arg	His 705
Glu Th	r His	Arg	Arg 710	Pro	Ser	Pro	Gln	Arg 715	Asn	Thr	Thr	Asn	Asp 720
Ile Al	a His	Ile	Gln 725	Asn	Glu	Glu	Ile	Met 730	Ser	Leu	Gln	Met	Lys 735
Gln L∈	eu Glu	His	Asp 740	His	Glu	Суз	Glu	Ser 745	Leu	Gln	Ala	His	Asp 750
Thr Le	eu Arg	Leu	Thr 755	Cys	Pro	Pro	Asp	Tyr 760	Thr	Leu	Thr	Leu	Arg 765
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Gln Thr Phe Glu Tyr Leu Lys Arg Glu His Ser Leu Ser Lys Pro 50 55 60

Tyr Gln Gly Val Gly Thr Gly Ser Ser Ser Leu Trp Asn Leu Met 65 70 75

Gly Asn Ala Met Val Met Thr Gln Tyr Ile Arg Leu Thr Pro Asp 80 85 90

Met Gln Ser Lys Gln Gly Ala Leu Trp Asn Arg Val Pro Cys Phe 95 100 105

Leu Arg Asp Trp Glu Leu Gln Val His Phe Lys Ile His Gly Gln 110 115 120

Gly Lys Lys Asn Leu His Gly Asp Gly Leu Ala Ile Trp Tyr Thr 125 130 135

Lys Asp Arg Met Gln Pro Gly Pro Val Phe Gly Asn Met Asp Lys 140 145 150

Phe Val Gly Leu Gly Val Phe Val Asp Thr Tyr Pro Asn Glu Glu
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Lys Gln Gln Glu Arg Val Phe Pro Tyr Ile Ser Ala Met Val Asn 170 175 180

Asn Gly Ser Leu Ser Tyr Asp His Glu Arg Asp Gly Arg Pro Thr 185 190 195

Glu Leu Gly Gly Cys Thr Ala Ile Val Arg Asn Leu His Tyr Asp 200 205 210

Thr Phe Leu Val Ile Arg Tyr Val Lys Arg His Leu Thr Ile Met 215 220 225

Met Asp Ile Asp Gly Lys His Glu Trp Arg Asp Cys Ile Glu Val 230 235 240

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Pro Val Ser Thr Pro Lys Asn Gly Met Ser Ser Lys Ser Arg Lys 35 40 45

Arg Ile Met Pro Asp Pro Val Thr Glu Pro Pro Val Thr Asp Pro 50 55 60

Val Tyr Glu Ala Leu Leu Tyr Cys Asn Ile Pro Ser Val Ala Glu 65 70 75

Arg Ser Met Glu Gly His Ala Pro His His Phe Lys Leu Val Ser 80 85 90

Val His Val Phe Ile Arg His Gly Asp Arg Tyr Pro Leu Tyr Val 95 100 105

Ile Pro Lys Thr Lys Arg Pro Glu Ile Asp Cys Thr Leu Val Ala 110 115 120

Asn Arg Lys Pro Tyr His Pro Lys Leu Glu Ala Phe Ile Ser His 125 130 135

Met Ser Lys Gly Ser Gly Ala Ser Phe Glu Ser Pro Leu Asn Ser 140 145 150

Leu Pro Leu Tyr Pro Asn His Pro Leu Cys Glu Met Gly Glu Leu 155 160 165

Thr Gln Thr Gly Val Val Gln His Leu Gln Asn Gly Gln Leu Leu 170 175 180

Arg Asp Ile Tyr Leu Lys Lys His Lys Leu Leu Pro Asn Asp Trp
185 190 195

Ser Ala Asp Gln Leu Tyr Leu Glu Thr Thr Gly Lys Ser Arg Thr 200 205 210

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Cys	Ser	Gly	Ser	Cys 245	Tyr	Cys	Pro	Val	Arg 250	Asn	Gln	Tyr	Leu	Glu 255
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Thr	Lys	Gln	Leu	Arg 290	Ala	Ala	Asn	Pro	Ile 295	Asp	Ser	Met	Leu	Cys 300
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Asp	Glu	Arg	Glu	Arg 335	Arg	Glu	Lys	Lys	Leu 340	Tyr	Phe	Gly	Tyr	Ser 345
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Ser	Δla													
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Leu				380					385				Leu	390
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Asp Lys Val Leu Gly Gly His Glu Cys Gln Pro His Ser Gln Pro 35 40 45

Trp Gln Ala Ala Leu Phe Gln Gly Gln Gln Leu Leu Cys Gly Gly
50 55 60

Val Leu Val Gly Gly Asn Trp Val Leu Thr Ala Ala His Cys Lys 65 70 75

Lys Pro Lys Tyr Thr Val Arg Leu Gly Asp His Ser Leu Gln Asn 80 85 90

Lys Asp Gly Pro Glu Gln Glu Ile Pro Val Val Gln Ser Ile Pro 95 100 105

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His Pro Cys Tyr Asn Ser Ser Asp Val Glu Asp His Asn His Asp
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Leu Met Leu Gln Leu Arg Asp Gln Ala Ser Leu Gly Ser Lys
                 125
                                     130
Val Lys Pro Ile Ser Leu Ala Asp His Cys Thr Gln Pro Gly Gln
                                     145
                 140
Lys Cys Thr Val Ser Gly Trp Gly Thr Val Thr Ser Pro Arg Glu
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Asn Phe Pro Asp Thr Leu Asn Cys Ala Glu Val Lys Ile Phe Pro
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Gln Lys Lys Cys Glu Asp Ala Tyr Pro Gly Gln Ile Thr Asp Gly
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Met Val Cys Ala Gly Ser Ser Lys Gly Ala Asp Thr Cys Gln Gly
Asp Ser Gly Gly Pro Leu Val Cys Asp Gly Ala Leu Gln Gly Ile
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<212> PRT

<213> Homo sapiens

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Leu Trp Leu Gln Ala Trp Gln Val Ala Ala Pro Cys Pro Gly Ala 20 25 30

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Gln	Gly	Leu	Gln	Ala 50	Val	Pro	Val	Gly	Ile 55	Pro	Ala	Ala	Ser	Gln 60
Arg	Ile	Phe	Leu	His 65	Gly	Asn	Arg	Ile	Ser 70	His	Val	Pro	Ala	Ala 75
Ser	Phe	Arg	Ala	Cys 80	Arg	Asn	Leu	Thr	Ile 85	Leu	Trp	Leu	His	Ser 90
Asn	Val	Leu	Ala	Arg 95	Ile	Asp	Ala	Ala	Ala 100	Phe	Thr	Gly	Leu	Ala 105
Leu	Leu	Glu	Gln	Leu 110	Asp	Leu	Ser	Asp	Asn 115	Ala	Gln	Leu	Arg	Ser 120
Val	Asp	Pro	Ala	Thr 125	Phe	His	Gly	Leu	Gly 130	Arg	Leu	His	Thr	Leu 135
His	Leu	Asp	Arg	Cys 140	Gly	Leu	Gln	Glu	Leu 145	Gly	Pro	Gly	Leu	Phe 150
Arg	Gly	Leu	Ala	Ala 155	Leu	Gln	Tyr	Leu	Tyr 160	Leu	Gln	Asp	Asn	Ala 165
Leu	Gln	Ala	Leu	Pro 170	Asp	Asp	Thr	Phe	Arg 175	Asp	Leu	Gly	Asn	Leu 180
Thr	His	Leu	Phe	Leu 185	His	Gly	Asn	Arg	Ile 190	Ser	Ser	Val	Pro	Glu 195
Arg	Ala	Phe	Arg	Gly 200	Leu	His	Ser	Leu	Asp 205	Arg	Leu	Leu	Leu	His 210
Gln	Asn	Arg	Val	Ala 215	His	Val	His	Pro	His 220	Ala	Phe	Arg	Asp	Leu 225
Gly	Arg	Leu	Met	Thr 230	Leu	Tyr	Leu	Phe	Ala 235	Asn	Asn	Leu	Ser	Ala 240
Leu	Pro	Thr	Glu	Ala 245	Leu	Ala	Pro	Leu	Arg 250	Ala	Leu	Gln	Tyr	Leu 255
Arg	Leu	Asn	Asp	Asn 260	Pro	Trp	Val	Cys	Asp 265		Arg	Ala	Arg	Pro 270
Leu	Trp	Ala	Trp	Leu 275		Lys	Phe	Arg	Gly 280		Ser	Ser	Glu	Val 285
Pro	Cys	Ser	Leu	Pro 290		. Arg	Leu	Ala	Gly 295	Arg	Asp	Leu	Lys	Arg 300
Leu	Ala	Ala	Asn	Asp 305		Gln	Gly	Cys	Ala 310		Ala	Thr	Gly	Pro 315
Tyr	His	Pro	Ile	Trp	Thr	Gly	Arg	Ala	Thr	Asp	Glu	Glu	Pro	Leu

330 325 320 Gly Leu Pro Lys Cys Cys Gln Pro Asp Ala Ala Asp Lys Ala Ser 340 Val Leu Glu Pro Gly Arg Pro Ala Ser Ala Gly Asn Ala Leu Lys 350 Gly Arg Val Pro Pro Gly Asp Ser Pro Pro Gly Asn Gly Ser Gly Pro Arg His Ile Asn Asp Ser Pro Phe Gly Thr Leu Pro Gly Ser 380 Ala Glu Pro Pro Leu Thr Ala Val Arg Pro Glu Gly Ser Glu Pro 400 395 Pro Gly Phe Pro Thr Ser Gly Pro Arg Arg Pro Gly Cys Ser 420 410 Arg Lys Asn Arg Thr Arg Ser His Cys Arg Leu Gly Gln Ala Gly 425 Ser Gly Gly Gly Thr Gly Asp Ser Glu Gly Ser Gly Ala Leu 440 Pro Ser Leu Thr Cys Ser Leu Thr Pro Leu Gly Leu Ala Leu Val 455 Leu Trp Thr Val Leu Gly Pro Cys 470 <210> 401 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Synthetic oligonucleotide probe <400> 401 tggctgccct gcagtacctc tacc 24 <210> 402 <211> 24 <212> DNA <213> Artificial Sequence <223> Synthetic oligonucleotide probe <400> 402 ccctgcaggt cattggcagc tagg 24 <210> 403

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<211> 798

<212> PRT

<213> Homo sapiens

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Pro Arg Ser Tyr Ser Val Val Glu Glu Thr Glu Gly Ser Ser Phe 35 40 45

Val Thr Asn Leu Ala Lys Asp Leu Gly Leu Glu Gln Arg Glu Phe 50 55 60

Ser Arg Arg Gly Val Arg Val Val Ser Arg Gly Asn Lys Leu His
65 70 75

Leu Gln Leu Asn Gln Glu Thr Ala Asp Leu Leu Leu Asn Glu Lys 80 85 90

Leu Asp Arg Glu Asp Leu Cys Gly His Thr Glu Pro Cys Val Leu 95 100 105

Arg Phe Gln Val Leu Leu Glu Ser Pro Phe Glu Phe Phe Gln Ala 110 115 120

Glu Leu Gln Val Ile Asp Ile Asn Asp His Ser Pro Val Phe Leu 125 130 135

Asp Lys Gln Met Leu Val Lys Val Ser Glu Ser Ser Pro Pro Gly 140 145 150

Thr Thr Phe Pro Leu Lys Asn Ala Glu Asp Leu Asp Val Gly Gln
155 160 165

Asn Asn Ile Glu Asn Tyr Ile Ile Ser Pro Asn Ser Tyr Phe Arg

Val Leu Thr Arg Lys Arg Ser Asp Gly Arg Lys Tyr Pro Glu Leu 185 190 195

Val Leu Asp Lys Ala Leu Asp Arg Glu Glu Glu Ala Glu Leu Arg 200 205 210

Leu Thr Leu Thr Ala Leu Asp Gly Gly Ser Pro Pro Arg Ser Gly 215 220 225

Thr Ala Gln Val Tyr Ile Glu Val Leu Asp Val Asn Asp Asn Ala

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Ser	Pro	Val	Gly	Phe 260	Leu	Val	Val	Lys	Val 265	Ser	Ala	Thr	Asp	Val 270
Asp	Thr	Gly	Val	Asn 275	Gly	Glu	Ile	Ser	Tyr 280	Ser	Leu	Phe	Gln	Ala 285
Ser	Glu	Glu	Ile	Gly 290	Lys	Thr	Phe	Lys	Ile 295	Asn	Pro	Leu	Thr	Gly 300
Glu	Ile	Glu	Leu	Lys 305	Lys	Gln	Leu	Asp	Phe 310	Glu	Lys	Leu	Gln	Ser 315
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Lys	Суз	Thr	Val	Leu 335	Ile	Gln	Val	Ile	Asp 340	Val	Asn	Asp	His	Ala 345
Pro	Glu	Val	Thr	Met 350	Ser	Ala	Phe	Thr	Ser 355	Pro	Ile	Pro	Glu	Asn 360
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Pro	Phe	Leu	Leu	Lys 395	Ser	Ala	Glu	Asn	Phe 400	Tyr	Thr	Leu	Leu	Thr 405
Glu	Arg	Pro	Leu	Asp 410	Arg	Glu	Ser	Arg	Ala 415	Glu	Tyr	Asn	Ile	Thr 420
Ile	Thr	Val	Thr	Asp 425	Leu	Gly	Thr	Pro	Met 430	Leu	Ile	Thr	Gln	Leu 435
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Phe	Thr	Gln	Thr	Ser 455	Tyr	Thr	Leu	Phe	Val 460	Arg	Glu	Asn	Asn	Ser 465
Pro	Ala	Leu	His	Ile 470	Arg	Ser	Val	Ser	Ala 475		Asp	Arg	Asp	Ser 480
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Pro	His	Leu	Pro	Leu 500	Thr	Ser	Leu	Val	Ser 505		Asn	Ala	Asp	Asn 510
Gly	His	Leu	Phe	Ala 515		Arg	Ser	Leu	Asp 520	Tyr	Glu	Ala	Leu	Gln 525

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Leu	Ser	Ser	Glu	Ala 545	Leu	Val	Arg	Val	Val 550	Val	Leu	Asp	Ala	Asn 555
Asp	Asn	Ser	Pro	Phe 560	Val	Leu	Tyr	Pro	Leu 565	Gln	Asn	Gly	Ser	Ala 570
Pro	Cys	Thr	Glu	Leu 575	Val	Pro	Arg	Ala	Ala 580	Glu	Pro	Gly	Tyr	Leu 585
Val	Thr	Lys	Val	Val 590	Ala	Val	Asp	Gly	Asp 595	Ser	Gly	Gln	Asn	Ala 600
Trp	Leu	Ser	Tyr	Gln 605	Leu	Leu	Lys	Ala	Thr 610	Glu	Leu	Gly	Leu	Phe 615
Gly	Val	Trp	Ala	His 620	Asn	Gly	Glu	Val	Arg 625	Thr	Ala	Arg	Leu	Leu 630
Ser	Glu	Arg	Asp	Ala 635	Ala	Lys	His	Arg	Leu 640	Val	Val	Leu	Val	Lys 645
Asp	Asn	Gly	Glu	Pro 650	Pro	Arg	Ser	Ala	Thr 655	Ala	Thr	Leu	His	Val 660
Leu	Leu	Val	Asp	Gly 665	Phe	Ser	Gln	Pro	Tyr 670	Leu	Pro	Leu	Pro	Glu 675
Ala	Ala	Pro	Thr	Gln 680	Ala	Gln	Ala	Asp	Leu 685	Leu	Thr	Val	Tyr	Leu 690
Val	Val	Ala	Leu	Ala 695	Ser	Val	Ser	Ser	Leu 700	Phe	Leu	Phe	Ser	Val 705
Leu	Leu	Phe	Val	Ala 710	Val	Arg	Leu	Cys	Arg 715	Arg	Ser	Arg	Ala	Ala 720
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Phe	Leu	Lys	Pro	Ile 770	Ile	Pro	Asn	Phe	Pro 775	Pro	Gln	Cys	Pro	Gly 780
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Asn Ile Gln

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<212> PRT

<213> Homo sapiens

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Glu Gln Pro Ala His Pro Leu Gln Val Gly Ala Val Tyr Leu Gly
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Glu Glu Glu Leu Leu His Asp Pro Met Gly Gln Asp Arg Ala Ala 65 70 75

Glu Glu Ala Asn Ala Val Leu Gly Leu Asp Thr Gln Gly Asp His

80 85 90

Met Val Met Leu Ser Val Ile Pro Gly Glu Ala Glu Asp Lys Val 95 100 105

Ser Ser Glu Pro Ser Gly Val Thr Cys Gly Ala Gly Gly Ala Glu 110 115 120

Asp Ser Arg Cys Asn Val Arg Glu Ser Leu Phe Ser Leu Asp Gly 125 130 130

Ala Gly Ala His Phe Pro Asp Arg Glu Glu Glu Tyr Tyr Thr Glu 140 145 150

Pro Glu Val Ala Glu Ser Asp Ala Ala Pro Thr Glu Asp Ser Asn 155 160 165

Asn Thr Glu Ser Leu Lys Ser Pro Lys Val Asn Cys Glu Glu Arg 170 175 180

Asn Ile Thr Gly Leu Glu Asn Phe Thr Leu Lys Ile Leu Asn Met 185 190 195

Ser Gln Asp Leu Met Asp Phe Leu Asn Pro Asn Gly Ser Asp Cys 200 205

Thr Leu Val Leu Phe Tyr Thr Pro Trp Cys Arg Phe Ser Ala Ser 215 220 225

Leu Ala Pro His Phe Asn Ser Leu Pro Arg Ala Phe Pro Ala Leu 230 235 240

His Phe Leu Ala Leu Asp Ala Ser Gln His Ser Ser Leu Ser Thr 245 250 255

Arg Phe Gly Thr Val Ala Val Pro Asn Ile Leu Leu Phe Gln Gly 260 265 270

Ala Lys Pro Met Ala Arg Phe Asn His Thr Asp Arg Thr Leu Glu 275 280 285

Thr Leu Lys Ile Phe Ile Phe Asn Gln Thr Gly Ile Glu Ala Lys 290 295 300

Lys Asn Val Val Thr Gln Ala Asp Gln Ile Gly Pro Leu Pro

Ser Thr Leu Ile Lys Ser Val Asp Trp Leu Leu Val Phe Ser Leu 320 325 330

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Asn Leu Gln Leu Cys His Gly Ile Glu Tyr Gln Asn Met Arg Leu
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Pro Asn Leu Leu Gly His Glu Thr Met Lys Glu Val Leu Glu Gln 65 70 75

Ala Gly Ala Trp Ile Pro Leu Val Met Lys Gln Cys His Pro Asp 80 85 90

Thr Lys Lys Phe Leu Cys Ser Leu Phe Ala Pro Val Cys Leu Asp 95 100 105

Asp Leu Asp Glu Thr Ile Gln Pro Cys His Ser Leu Cys Val Gln 110 115 120

Val Lys Asp Arg Cys Ala Pro Val Met Ser Ala Phe Gly Phe Pro 125 130 135

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Glu Glu Ala Pro Lys Val Cys Glu Ala Cys Lys Asn Lys Asn Asp
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Asp Asp Asn Asp Ile Met Glu Thr Leu Cys Lys Asn Asp Phe Ala
Leu Lys Ile Lys Val Lys Glu Ile Thr Tyr Ile Asn Arg Asp Thr
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Lys Ile Ile Leu Glu Thr Lys Ser Lys Thr Ile Tyr Lys Leu Asn
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Gly Val Ser Glu Arg Asp Leu Lys Lys Ser Val Leu Trp Leu Lys
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Asp Ser Leu Gln Cys Thr Cys Glu Glu Met Asn Asp Ile Asn Ala
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Pro Tyr Leu Val Met Gly Gln Lys Gln Gly Glu Leu Val Ile
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Leu Trp Leu Ser Phe Ala Pro Val Ala Asp Val Ile Ala Glu Asp 50 55 60

Leu Val Leu Ser Met Glu Gln Ile Asn Trp Leu Ser Leu Val Tyr 65 70 75

Leu Val Val Ser Thr Pro Phe Gly Val Ala Ala Ile Trp Ile Leu 80 85 90

Asp Ser Val Gly Leu Arg Ala Ala Thr Ile Leu Gly Ala Trp Leu 95 100 105

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Cys Al	a Le	eu .	Ala	Gln 140	Ser	Leu	Val	Ile	Phe 145	Ser	Pro	Ala	Lys	Leu 150
Ala Al	a Le	eu	Trp	Phe 155	Pro	Glu	His	Gln	Arg 160	Ala	Thr	Ala	Asn	Met 165
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Thr Il	e C	ys	Leu	Trp 215	Glu	Ser	Val	Pro	Pro 220	Thr	Pro	Pro	Ser	Ala 225
Gly Al	a A	la	Ser	Ser 230	Thr	Ser	Glu	Lys	Phe 235	Leu	Asp	Gly	Leu	Lys 240
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Glu Gl	n I	le	Leu	Cys 275	Ala	Ser	Gly	His	Ser 280	Ser	Gly	Phe	Ser	Gly 285
Leu Cy	/s G	ly	Ala	Leu 290	Phe	Ile	Thr	Phe	Gly 295	Ile	Leu	Gly	Ala	Leu 300
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Ala A	la T	hr	Gly	Met 380		Phe	Val	Leu	Gly 385	Gln	Ala	Glu	Gly	Ile 390
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Gly Val Leu Gly Pro Ser Thr Ala Thr Pro Glu Cys Thr Ala Arg
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Ala Cys His Arg Ala Thr Pro Arg Ala Gln Gly Pro Ala Ala Thr
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185

Pro Lys Gly Glu Gln Glu Leu Glu Ile Ser Glu Ser Ala Ser Leu

Leu	Ile	Val	Val	Lys 200	Glu	Leu	Asp	Arg	Glu 205	Ile	His	Ser	Phe	Phe 210
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Gly	Thr	Ser	Leu	Val 230	Lys	Val	Asn	Val	Leu 235	Asp	Ser	Asn	Asp	Asn 240
Ser	Pro	Ala	Phe	Ala 245	Glu	Ser	Ser	Leu	Ala 250	Leu	Glu	Ile	Gln	Glu 255
Asp	Ala	Ala	Pro	Gly 260	Thr	Leu	Leu	Ile	Lys 265	Leu	Thr	Ala	Thr	Asp 270
Pro	Asp	Gln	Gly	Pro 275	Asn	Gly	Glu	Val	Glu 280	Phe	Phe	Leu	Ser	Lys 285
His	Met	Pro	Pro	Glu 290	Val	Leu	Asp	Thr	Phe 295	Ser	Ile	Asp	Ala	Lys 300
Thr	Gly	Gln	Val	Ile 305	Leu	Arg	Arg	Pro	Leu 310	Asp	Tyr	Glu	Lys	Asn 315
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Pro	Ile	Pro	Ala	His 335	Cys	Lys	Val	Leu	Ile 340	Lys	Val	Leu	Asp	Val 345
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Ser	Leu	Val	Ser	Glu 365	Ala	Leu	Pro	Lys	Asp 370	Ser	Phe	Ile	Ala	Leu 375
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Суз	Trp	Leu	Ser	Gln 395	Glu	Leu	Gly	His	Phe 400	Arg	Leu	Lys	Arg	Thr 405
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Glu	Val	. Ser	Thr	Arg 470		Asn	Asn	Leu	Pro 475	Ser	Leu	His	Leu	Ile 480
Thr	Ile	. Lys	Ala	His	Asp	Ala	Asp	Leu	Gly	Ile	Asn	Gly	Lys	Val

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Asp	Ser	Asn	Thr	Gly 515	Glu	Val	Thr	Ala	Gln 520	Arg	Ser	Leu	Asn	Tyr 525
Glu	Glu	Met	Ala	Gly 530	Phe	Glu	Phe	Gln	Val 535	Ile	Ala	Glu	Asp	Ser 540
Gly	Gln	Pro	Met	Leu 545	Ala	Ser	Ser	Val	Ser 550	Val	Trp	Val	Ser	Leu 555
Leu	Asp	Ala	Asn	Asp 560	Asn	Ala	Pro	Glu	Val 565	Val	Gln	Pro	Val	Leu 570
Ser	Asp	Gly	Lys	Ala 575	Ser	Leu	Ser	Val	Leu 580	Val	Asn	Ala	Ser	Thr 585
Gly	His	Leu	Leu	Val 590	Pro	Ile	Glu	Thr	Pro 595	Asn	Gly	Leu	Gly	Pro 600
Ala	Gly	Thr	Asp	Thr 605	Pro	Pro	Leu	Ala	Thr 610	His	Ser	Ser	Arg	Pro 615
Phe	Leu	Leu	Thr	Thr 620	Ile	Val	Ala	Arg	Asp 625	Ala	Asp	Ser	Gly	Ala 630
Asn	Gly	Glu	Pro	Leu 635		Ser	Ile	Arg	Asn 640	Gly	Asn	Glu	Ala	His 645
Leu	Phe	Ile	Leu	Asn 650		His	Thr	Gly	Gln 655	Leu	Phe	Val	Asn	Val 660
Thr	Asn	Ala	Ser	Ser 665	Leu	Ile	Gly	Ser	Glu 670	Trp	Glu	Leu	Glu	Ile 675
Val	Val	Glu	Asp	Gln 680		Ser	Pro	Pro	Leu 685	Gln	Thr	Arg	Ala	Leu 690
Leu	Arg	Val	Met	Phe 695		Thr	Ser	Val	Asp 700	His	Leu	Arg	Asp	Ser 705
Ala	Arg	Lys	Pro	Gly 710		Leu	Ser	Met	Ser 715	Met	Leu	Thr	: Val	Ile 720
Cys	Leu	Ala	. Val	Leu 725		Gly	' Ile	Phe	Gly 730		Ile	. Leu	Ala	Leu 735
Phe	Met	Ser	Ile	Cys 740		Thr	Glu	Lys	Lys 745	Asp	Asn	Arg	, Ala	Tyr 750
Asn	Cys	Arg	Glu	Ala 755		ı Ser	Thr	Tyr	760	Gln	Glr	Pro	Lys	765
Pro	Glr	Lys	His	; Il∈ 77(Lys	a Ala	Asp	775	His	Leu	ı Val	Pro	780

Leu	Arg	Gly	Gln	Ala 785	Gly	Glu	Pro	Суз	Glu 790	Val	Gly	Gln	Ser	His 795
Lys	Asp	Val	Asp	Lys 800	Glu	Ala	Met	Met	Glu 805	Ala	Gly	Trp	Asp	Pro 810
Cys	Leu	Gln	Ala	Pro 815	Phe	His	Leu	Thr	Pro 820	Thr	Leu	Tyr	Arg	Thr 825
Leu	Arg	Asn	Gln	Gly 830	Asn	Gln	Gly	Ala	Pro 835	Ala	Glu	Ser	Arg	Glu 840
Val	Leu	Gln	Asp	Thr 845	Val	Asn	Leu	Leu	Phe 850	Asn	His	Pro	Arg	Gln 855
Arg	Asn	Ala	Ser	Arg 860	Glu	Asn	Leu	Asn	Leu 865	Pro	Glu	Pro	Gln	Pro 870
Ala	Thr	Gly	Gln	Pro 875	Arg	Ser	Arg	Pro	Leu 880	Lys	Val	Ala	Gly	Ser 885
Pro	Thr	Gly	Arg	Leu 890	Ala	Gly	Asp	Gln	Gly 895	Ser	Glu	Glu	Ala	Pro 900
Gln	Arg	Pro	Pro	Ala 905	Ser	Ser	Ala	Thr	Leu 910	Arg	Arg	Gln	Arg	His 915
Leu	Asn	Gly	Lys	Val 920	Ser	Pro	Glu	Lys	Glu 925	Ser	Gly	Pro	Arg	Gln 930
Ile	Leu	Arg	Ser	Leu 935	Val	Arg	Leu	Ser	Val 940	Ala	Ala	Phe	Ala	Glu 945
Arg	Asn	Pro	Val	Glu 950	Glu	Leu	Thr	Val	Asp 955	Ser	Pro	Pro	Val	Gln 960
Gln	Ile	Ser	Gln	Leu 965		Ser	Leu	Leu	His 970	Gln	Gly	Gln	Phe	Gln 975
Pro	Lys	Pro	Asn	His 980		Gly	Asn	Lys	Tyr 985	Leu	Ala	Lys	Pro	Gly 990
Gly	ser Ser	Arg	Ser	995		Pro	Asp	Thr	Asp 1000	Gly	Pro	Ser	Ala	Arg 1005
Ala	Gly	Gly	g Gln	Thr 1010) Pro	Glu	Gln	Glu 1015	Glu	Gly	Prc	Leu	Asp 1020
Pro	Glu	ı Glu	ı Asp	Leu 1025	Ser	val	. Lys	Gln	Leu 1030	Leu	Glu	ı Glü	ı Glu	Leu 1035
Ser	Ser	Let	ı Lev	1040		Ser	Thr	Gly	Leu 1045	Ala	. Leu	ı Asp	Arg	Leu 1050
Ser	: Ala	a Pro	Asp	Pro 1055		a Trp	Met	: Ala	1060	J Leu	ser	Leu	ı Pro	Leu 1065
Thi	Thr	: Asr	туг	Arg	J Asp	Asr	ı Val	L Ile	e Ser	Pro	Asp	Ala	a Ala	a Ala

Thr Glu Glu Pro Arg Thr Phe Gln Thr Phe Gly Lys Ala Glu Ala 1085 1090 1095

Pro Glu Leu Ser Pro Thr Gly Thr Arg Leu Ala Ser Thr Phe Val 1100 1105 1110

Ser Glu Met Ser Ser Leu Leu Glu Met Leu Leu Glu Gln Arg Ser 1115 1120 1125

Ser Met Pro Val Glu Ala Ala Ser Glu Ala Leu Arg Arg Leu Ser 1130 1135 1140

Val Cys Gly Arg Thr Leu Ser Leu Asp Leu Ala Thr Ser Ala Ala 1145 1150 1155

Ser Gly Met Lys Val Gln Gly Asp Pro Gly Gly Lys Thr Gly Thr 1160 1165 1170

Glu Gly Lys Ser Arg Gly Ser Ser Ser Ser Ser Arg Cys Leu 1175 1180

<210> 426

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 426

gtaagcacat gcctccagag gtgc 24

<210> 427

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 427

qtqacqtqqa tgcttgggat gttg 24

<210> 428

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 428

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<210> 429

<211> 2037

<212> DNA <213> Homo sapiens

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<212> PRT

<213> Homo sapiens

<400> 430

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Leu Phe Phe Gly Phe Gly Trp Leu Phe Phe Met Arg Gln Leu Phe 20 25 30

Lys Asp Tyr Glu Ile Arg Gln Tyr Val Val Gln Val Ile Phe Ser 35 40 45

Val Thr Phe Ala Phe Ser Cys Thr Met Phe Glu Leu Ile Ile Phe 50 55 60

Glu Ile Leu Gly Val Leu Asn Ser Ser Ser Arg Tyr Phe His Trp
65 70 75

Lys Met Asn Leu Cys Val Ile Leu Leu Ile Leu Val Phe Met Val

Pro Phe Tyr Ile Gly Tyr Phe Ile Val Ser Asn Ile Arg Leu Leu 95 100 105

His Lys Gln Arg Leu Leu Phe Ser Cys Leu Leu Trp Leu Thr Phe 110 115

Met	Tyr	Phe	Phe	Trp 125	Lys	Leu	Gly	Asp	Pro 130	Phe	Pro	Ile	Leu	Ser 135
Pro	Lys	His	Gly	Ile 140	Leu	Ser	Ile	Glu	Gln 145	Leu	Ile	Ser	Arg	Val 150
Gly	Val	Ile	Gly	Val 155	Thr	Leu	Met	Ala	Leu 160	Leu	Ser	Gly	Phe	Gly 165
Ala	Val	Asn	Суз	Pro 170	Tyr	Thr	Tyr	Met	Ser 175	Tyr	Phe	Leu	Arg	Asn 180
Val	Thr	Asp	Thr	Asp 185	Ile	Leu	Ala	Leu	Glu 190	Arg	Arg	Leu	Leu	Gln 195
Thr	Met	Asp	Met	Ile 200	Ile	Ser	Lys	Lys	Lys 205	Arg	Met	Ala	Met	Ala 210
Arg	Arg	Thr	Met	Phe 215	Gln	Lys	Gly	Glu	Val 220	His	Asn	Lys	Pro	Ser 225
Gly	Phe	Trp	Gly	Met 230	Ile	Lys	Ser	Val	Thr 235	Thr	Ser	Ala	Ser	Gly 240
Ser	Glu	Asn	Leu	Thr 245	Leu	Ile	Gln	Gln	Glu 250	Val	Asp	Ala	Leu	Glu 255
Glu	Leu	Ser	Arg	Gln 260	Leu	Phe	Leu	Glu	Thr 265	Ala	Asp	Leu	Tyr	Ala 270
Thr	Lys	Glu	Arg	Ile 275	Glu	Tyr	Ser	Lys	Thr 280	Phe	Lys	Gly	Lys	Tyr 285
Phe	Asn	Phe	Leu	Gly 290	Tyr	Phe	Phe	Ser	Ile 295	Tyr	Cys	Val	Trp	Lys 300
Ile	Phe	Met	Ala	Thr 305	Ile	Asn	Ile	Val	Phe 310	Asp	Arg	Val	Gly	Lys 315
Thr	Asp	Pro	Val	Thr 320		Gly	· Ile	Glu	Ile 325	Thr	Val	Asn	Tyr	Leu 330
Gly	' Ile	Gln	Phe	335		Lys	Phe	Trp	Ser 340	Gln	His	Ile	ser	Phe 345
Ile	. Leu	Val	. Gly	7 Ile 350		Ile	val	Thr	Ser 355	Ile	Arg	Gly	Leu	Leu 360
Ile	. Thr	Leu	Thr	Lys 365		Ph∈	туг	Ala	. Il∈ 370	ser	Ser	Ser	Lys	Ser 375
Ser	: Asn	. Val	. Ile	9 Val		Let	ı Lev	ı Ala	Glr 385	ı Ile	Met	Gly	Met	Tyr 390
Phe	e Val	. Ser	Ser	Val 395		ı Lev	ı Ile	e Arç	Met 400	Ser	: Met	Pro	Leu	Glu 405
Туз	. Arg	Th:	: Ile	e Ile	e Thi	Glu	ı Val	Leu	ı Gly	g Glu	Let	Glr	n Phe	Asn

420 415 410

Phe Tyr His Arg Trp Phe Asp Val Ile Phe Leu Val Ser Ala Leu 425

Ser Ser Ile Leu Phe Leu Tyr Leu Ala His Lys Gln Ala Pro Glu 445

Lys Gln Met Ala Pro 455

<210> 431

<211> 407

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 78, 81, 113, 157, 224, 297

<223> unknown base

<400> 431

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ttgtacnggt gatcttctcc gtgacgtttg ccatttcttg caccatgttt 200

gagctcatca tctttgaaat cttnggagta ttgaatagca gctcccgtta 250

ttttcactgg aaaatgaacc tgtgtgtaat tctgctgatc ctggttntca 300

tggtgccttt ttacattggc tattttattg tgagcaatat ccgactactg 350

cataaacaac gactgctttt ttcctgtctc ttatggctga cctttatgta 400

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<210> 432

<211> 457

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 31, 66, 81-82, 84, 122, 184, 187, 232, 241, 400, 424, 427, 434

<223> unknown base

<400> 432

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tattttttgg atttggggta gnttttttc atgcgccaat tgtttaaaga 150

ctatgagata cgtcagtatg ttgtacaggt gatnttntcc gtgacgtttg 200

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cattttcttg caccatgttt gagctcatca tntttgaaat nttaggagta 250
ttgaatagca gctcccgtta ttttcactgg aaaatgaacc tgtgtgtaat 300
tctgctgatc ctggttttca tggtgccttt ttacattggc tattttattg 350
tgagcaatat ccgactactg cataaacaac gactgctttt ttcctgtctn 400
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cattctc 457
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<211> 20
<212> DNA
<213> Artificial Sequence
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<223> Synthetic oligonucleotide probe
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 aagtggagcc ggagccttcc 20
<210> 434
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<400> 434
 tcgttgttta tgcagtagtc gg 22
<210> 435
<211> 41
<212> DNA
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<400> 435
 attgtttaaa gactatgaga tacgtcagta tgttgtacag g 41
<210> 436
<211> 3951
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 ttctcacggg ctgtcgcctt caatctggac gtgatgggtg ccttgcgcaa 150
 ggagggcgag ccaggcagcc tcttcggctt ctctgtggcc ctgcaccggc 200
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<211> 1141

<212> PRT

<213> Homo sapiens

<400> 437

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Ala Val Ala Phe Asn Leu Asp Val Met Gly Ala Leu Arg Lys Glu 35 40 45

Gly Glu Pro Gly Ser Leu Phe Gly Phe Ser Val Ala Leu His Arg
50 55 60

Gln Leu Gln Pro Arg Pro Gln Ser Trp Leu Leu Val Gly Ala Pro
65 70 75

Gln Ala Leu Ala Leu Pro Gly Gln Gln Ala Asn Arg Thr Gly Gly

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Asn	Gln	Trp	Leu	Gly 125	Val	Ser	Val	Arg	Ser 130	Gln	Gly	Pro	Gly	Gly 135
Lys	Ile	Val	Thr	Cys 140	Ala	His	Arg	Tyr	Glu 145	Ala	Arg	Gln	Arg	Val 150
Asp	Gln	Ile	Leu	Glu 155	Thr	Arg	Asp	Met	Ile 160	Gly	Arg	Cys	Phe	Val 165
Leu	Ser	Gln	Asp	Leu 170	Ala	Ile	Arg	Asp	Glu 175	Leu	Asp	Gly	Gly	Glu 180
Trp	Lys	Phe	Cys	Glu 185	Gly	Arg	Pro	Gln	Gly 190	His	Glu	Gln	Phe	Gly 195
Phe	Cys	Gln	Gln	Gly 200	Thr	Ala	Ala	Ala	Phe 205	Ser	Pro	Asp	Ser	His 210
Tyr	Leu	Leu	Phe	Gly 215	Ala	Pro	Gly	Thr	Tyr 220	Asn	Trp	Lys	Gly	Thr 225
Ala	Arg	Val	Glu	Leu 230	Cys	Ala	Gln	Gly	Ser 235	Ala	Asp	Leu	Ala	His 240
Leu	Asp	Asp	Gly	Pro 245	Tyr	Glu	Ala	Gly	Gly 250	Glu	Lys	Glu	Gln	Asp 255
Pro	Arg	Leu	Ile	Pro 260	Val	Pro	Ala	Asn	Ser 265	Tyr	Phe	Gly	Phe	Ser 270
Ile	Asp	Ser	Gly	Lys 275	Gly	Leu	Val	Arg	Ala 280	Glu	Glu	Leu	Ser	Phe 285
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Leu	Arg	Lys	Asp	Ser 305	Ala	Ser	Arg	Leu	Val 310	Pro	Glu	Val	Met	Leu 315
Ser	Gly	Glu	Arg	Leu 320	Thr	Ser	Gly	Phe	Gly 325	Tyr	Ser	Leu	Ala	Val 330
Ala	Asp	Leu	Asn	Ser 335	Asp	Gly	Trp	Pro	Asp 340	Leu	Ile	Val	Gly	Ala 345
Pro	Tyr	Phe	Phe	Glu 350	Arg	Gln	Glu	Glu	Leu 355	Gly	Gly	Ala	Val	Tyr 360
Val	Tyr	Leu	Asn	Gln 365	Gly	Gly	His	Trp	Ala 370	Gly	Ile	Ser	Pro	Leu 375

Arg	Leu	Cys	Gly	Ser 380	Pro	Asp	Ser	Met	Phe 385	Gly	Ile	Ser	Leu	Ala 390
Val	Leu	Gly	Asp	Leu 395	Asn	Gln	Asp	Gly	Phe 400	Pro	Asp	Ile	Ala	Val 405
Gly	Ala	Pro	Phe	Asp 410	Gly	Asp	Gly	Lys	Val 415	Phe	Ile	Tyr	His	Gly 420
Ser	Ser	Leu	Gly	Val 425	Val	Ala	Lys	Pro	Ser 430	Gln	Val	Leu	Glu	Gly 435
Glu	Ala	Val	Gly	Ile 440	Lys	Ser	Phe	Gly	Tyr 445	Ser	Leu	Ser	Gly	Ser 450
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Leu	Ala	Asp	Thr	Ala 470	Val	Leu	Phe	Arg	Ala 475	Arg	Pro	Ile	Leu	His 480
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Gln	Pro	Asn	Cys	Ala 500	Gly	Gly	His	Ser	Val 505	Cys	Val	Asp	Leu	Arg 510
Val	Cys	Phe	Ser	Tyr 515	Ile	Ala	Val	Pro	Ser 520	Ser	Tyr	Ser	Pro	Thr 525
Val	Ala	Leu	Asp	Tyr 530	Val	Leu	Asp	Ala	Asp 535	Thr	Asp	Arg	Arg	Leu 540
Arg	Gly	Gln	Val	Pro 545	Arg	Val	Thr	Phe	Leu 550	Ser	Arg	Asn	Leu	Glu 555
Glu	Pro	Lys	His	Gln 560	Ala	Ser	Gly	Thr	Val 565	Trp	Leu	Lys	His	Gln 570
His	Asp	Arg	Val	Cys 575	Gly	Asp	Ala	Met	Phe 580	Gln	Leu	Gln	Glu	Asn 585
Val	Lys	Asp	Lys	Leu 590	Arg	Ala	Ile	Val	Val 595	Thr	Leu	Ser	Tyr	Ser 600
Leu	Gln	Thr	Pro	Arg 605	Leu	Arg	Arg	Gln	Ala 610	Pro	Gly	Gln	Gly	Leu 615
Pro	Pro	Val	Ala	Pro 620	Ile	Leu	Asn	Ala	His 625	Gln	Pro	Ser	Thr	Gln 630
Arg	Ala	Glu	Ile	His 635	Phe	Leu	Lys	Gln	Gly 640	Cys	Gly	Glu	Asp	Lys 645
Ile	Cys	Gln	Ser	Asn 650	Leu	Gln	Leu	Val	His 655	Ala	Arg	Phe	Суз	Thr 660
Arg	Val	Ser	Asp	Thr	Glu	Phe	Gln	Pro	Leu	Pro	Met	Asp	Val	Asp

				665					670	ı				675
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Leu	Glu	Leu	Met	Val 695		Asn	Leu	Pro	Ser 700		Pro	Ala	Gln	Pro 705
Gln	Ala	Asp	Gly	Asp 710		Ala	His	Glu	Ala 715		Leu	Leu	Val	Met 720
Leu	Pro	Asp	Ser	Leu 725	His	Tyr	Ser	Gly	Val 730		Ala	Leu	Asp	Pro 735
Ala	Glu	Lys	Pro	Leu 740	Cys	Leu	Ser	Asn	Glu 745		Ala	Ser	His	Val 750
Glu	Суз	Glu	Leu	Gly 755	Asn	Pro	Met	Lys	Arg 760	Gly	Ala	Gln	Val	Thr 765
Phe	Tyr	Leu	Ile	Leu 770	Ser	Thr	Ser	Gly	Ile 775	Ser	Ile	Glu	Thr	Thr 780
Glu	Leu	Glu	Val	Glu 785	Leu	Leu	Leu	Ala	Thr 790	Ile	Ser	Glu	Gln	Glu 795
Leu	His	Pro	Val	Ser 800	Ala	Arg	Ala	Arg	Val 805	Phe	Ile	Glu	Leu	Pro 810
Leu	Ser	Ile	Ala	Gly 815	Met	Ala	Ile	Pro	Gln 820	Gln	Leu	Phe	Phe	Ser 825
Gly	Val	Val	Arg	Gly 830	Glu	Arg	Ala	Met	Gln 835	Ser	Glu	Arg	Asp	Val 840
Gly	Ser	Lys	Val	Lys 845	Tyr	Glu	Val	Thr	Val 850	Ser	Asn	Gln	Gly	Gln 855
Ser	Leu	Arg	Thr	Leu 860	Gly	Ser	Ala	Phe	Leu 865	Asn	Ile	Met	Trp	Pro 870
His	Glu	Ile	Ala	Asn 875	Gly	Lys	Trp	Leu	Leu 880	Tyr	Pro	Met	Gln	Val 885
Glu	Leu	Glu	Gly	Gly 890	Gln	Gly	Pro	Gly	Gln 895	Lys	Gly	Leu	Cys	Ser 900
Pro	Arg	Pro	Asn	Ile 905	Leu	His	Leu	Asp	Val 910	Asp	Ser	Arg	Asp	Arg 915
Arg	Arg	Arg	Glu	Leu 920	Glu	Pro	Pro	Glu	Gln 925	Gln	Glu	Pro	Gly	Glu 930
Arg	Gln	Glu	Pro	Ser 935	Met	Ser	Trp	Trp	Pro 940	Val	Ser	Ser	Ala	Glu 945
Lys	Lys	Lys	Asn	Ile 950	Thr	Leu	Asp	Cys	Ala 955	Arg	Gly	Thr	Ala	Asn 960

- Cys Val Val Phe Ser Cys Pro Leu Tyr Ser Phe Asp Arg Ala Ala 965 970 975
- Val Leu His Val Trp Gly Arg Leu Trp Asn Ser Thr Phe Leu Glu 980 985 990
- Glu Tyr Ser Ala Val Lys Ser Leu Glu Val Ile Val Arg Ala Asn 995 1000 1005
- Ile Thr Val Lys Ser Ser Ile Lys Asn Leu Met Leu Arg Asp Ala 1010 1015 1020
- Ser Thr Val Ile Pro Val Met Val Tyr Leu Asp Pro Met Ala Val 1025 1030 1035
- Val Ala Glu Gly Val Pro Trp Trp Val Ile Leu Leu Ala Val Leu 1040 1045 1050
- Ala Gly Leu Leu Val Leu Ala Leu Leu Val Leu Leu Trp Lys 1055 1060 1065
- Met Gly Phe Phe Lys Arg Ala Lys His Pro Glu Ala Thr Val Pro 1070 1075 1080
- Gln Tyr His Ala Val Lys Ile Pro Arg Glu Asp Arg Gln Gln Phe 1085 1090 1095
- Lys Glu Glu Lys Thr Gly Thr Ile Leu Arg Asn Asn Trp Gly Ser 1100 1105 1110
- Pro Arg Arg Glu Gly Pro Asp Ala His Pro Ile Leu Ala Ala Asp 1115 1120 1125
- Gly His Pro Glu Leu Gly Pro Asp Gly His Pro Gly Pro Gly Thr 1130 1135 1140

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- <400> 438

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cgtactgtgt gtgtgtgcag ccgcttggtg cagtcagtct ctcgcagctq 200
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<211> 436

<212> PRT

<213> Homo sapiens

<400> 442

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Gly Arg Ser Asp Gly Gly Asn Phe Leu Asp Asp Lys Gln Trp Leu 35 40 45

Thr Thr Ile Ser Gln Tyr Asp Lys Glu Val Gly Gln Trp Asn Lys

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Gly	Lys	Pro	Phe	Asp 80	Gln	Ala	Leu	Asp	Pro 85	Ala	Lys	Asp	Pro	Cys 90
Leu	Lys	Met	Lys	Cys 95	Ser	Arg	His	Lys	Val 100	Cys	Ile	Ala	Gln	Asp 105
Ser	Gln	Thr	Ala	Val 110	Cys	Ile	Ser	His	Arg 115	Arg	Leu	Thr	His	Arg 120
Met	Lys	Glu	Ala	Gly 125	Val	Asp	His	Arg	Gln 130	Trp	Arg	Gly	Pro	Ile 135
Leu	Ser	Thr	Cys	Lys 140	Gln	Cys	Pro	Val	Val 145	Tyr	Pro	Ser	Pro	Val 150
Суз	Gly	Ser	Asp	Gly 155	His	Thr	Tyr	Ser	Phe 160	Gln	Cys	Lys	Leu	Glu 165
Tyr	Gln	Ala	Суз	Val 170	Leu	Gly	Lys	Gln	Ile 175	Ser	Val	Lys	Cys	Glu 180
Gly	His	Cys	Pro	Cys 185	Pro	Ser	Asp	Lys	Pro 190	Thr	Ser	Thr	Ser	Arg 195
Asn	Val	Lys	Arg	Ala 200	Cys	Ser	Asp	Leu	Glu 205	Phe	Arg	Glu	Val	Ala 210
Asn	Arg	Leu	Arg	Asp 215	Trp	Phe	Lys	Ala	Leu 220	His	Glu	Ser	Gly	Ser 225
Gln	Asn	Lys	Lys	Thr 230	Lys	Thr	Leu	Leu	Arg 235	Pro	Glu	Arg	Ser	Arg 240
Phe	Asp	Thr	Ser	Ile 245	Leu	Pro	Ile	Cys	Lys 250	Asp	Ser	Leu	Gly	Trp 255
Met	Phe	Asn	Arg	Leu 260	Asp	Thr	Asn	Tyr	Asp 265	Leu	Leu	Leu	Asp	Gln 270
Ser	Glu	Leu	Arg	Ser 275	Ile	Tyr	Leu	Asp	Lys 280	Asn	Glu	Gln	Cys	Thr 285
Lys	Ala	Phe	Phe	Asn 290	Ser	Cys	Asp	Thr	Tyr 295	Lys	Asp	Ser	Leu	Ile 300
Ser	Asn	Asn	Glu	Trp 305	Cys	Tyr	Cys	Phe	Gln 310	Arg	Gln	Gln	Asp	Pro 315
Pro	Cys	Gln	Thr	Glu 320	Leu	Ser	Asn	Ile	Gln 325	Lys	Arg	Gln	Gly	Val 330
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Cys Val Asp Arg Tyr Gly Asn Glu Val Met Gly Ser Arg Ile Asn
Gly Val Ala Asp Cys Ala Ile Asp Phe Glu Ile Ser Gly Asp Phe
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Ala Ser Gly Asp Phe His Glu Trp Thr Asp Asp Glu Asp Asp Glu
Asp Asp Ile Met Asn Asp Glu Asp Glu Ile Glu Asp Asp Asp Glu
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Asp Glu Gly Asp Asp Asp Asp Gly Gly Asp Asp His Asp Val Tyr
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<211> 229

<212> PRT

<213> Homo sapiens

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Glu Cys Phe Tyr Gln Pro Met Pro Leu Lys Ala Ser Leu Glu Ile 50 55 60

Glu Tyr Gln Val Leu Asp Gly Ala Gly Leu Asp Ile Asp Phe His 65 70 75

Leu Ala Ser Pro Glu Gly Lys Thr Leu Val Phe Glu Gln Arg Lys
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Ser Asp Gly Val His Thr Val Glu Thr Glu Val Gly Asp Tyr Met $95 \hspace{1.5cm} 100 \hspace{1.5cm} 105$

Phe Cys Phe Asp Asn Thr Phe Ser Thr Ile Ser Glu Lys Val Ile

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Arg	Leu	Ser	Lys	Ser 170	Gly	His	Ile	Gln	Ile 175	Leu	Leu	Arg	Ala	Phe 180
Glu	Ala	Arg	Asp	Arg 185	Asn	Ile	Gln	Glu	Ser 190	Asn	Phe	Asp	Arg	Val 195
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<213> Homo sapiens
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<210> 452
<211> 175
<212> PRT
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<213> Homo sapiens

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Trp Met Asp Ala Asp Leu Ala Cys Gln Lys Arg Pro Ser Gly Lys 65 70 75

Leu Val Ser Val Leu Ser Gly Ala Glu Gly Ser Phe Val Ser Ser 80 85 90

Leu Val Arg Ser Ile Ser Asn Ser Tyr Ser Tyr Ile Trp Ile Gly 95 100 105

Leu His Asp Pro Thr Gln Gly Ser Glu Pro Asp Gly Asp Gly Trp
110 115 120

Glu Trp Ser Ser Thr Asp Val Met Asn Tyr Phe Ala Trp Glu Lys 125 130 135

Asn Pro Ser Thr Ile Leu Asn Pro Gly His Cys Gly Ser Leu Ser 140 145

Arg Ser Thr Gly Phe Leu Lys Trp Lys Asp Tyr Asn Cys Asp Ala 155 160 165

Lys Leu Pro Tyr Val Cys Lys Phe Lys Asp 170 175

<210> 453

<211> 550

<212> DNA

<213> Homo sapiens

<400> 453
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tggggtgaga gcacagagga gtgggccggg accatgcggg ggacgcggct 100

ggcgctcctg gcgctggtgc tggctgcctg cggagagctg gcgccggccc 150

tgcgctgcta cgtctgtccg gagcccacag gagtgtcgga ctgtgtcacc 200

atcgccacct gcaccacaa cgaaaccatg tgcaagacca cactctactc 250

ccgggagata gtgtacccct tccaggggga ctccacggtg accaagtcct 300

gtgccagcaa gtgtaagccc tcggatgtg atggcatcgg ccagaccctg 350

cccgtgtcct gctgcaatac tgagctgtgc aatgtagacg gggcgccgc 400

tctgaacagc ctccactgcg gggccctcac gctcctcca ctcttgagcc 450

tccgactgta gagtccccgc ccaccccat ggccctatgc ggcccagccc 500

cgaatgcctt gaagaagtgc cccctgcacc aggaaaaaaa aaaaaaaaa 550

<210> 454

<211> 125

<212> PRT

<213> Homo sapiens

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At Arg Gly Thr Arg Leu Ala Leu Leu Ala Leu Val Leu Ala Ala 15

Cys Gly Glu Leu Ala Pro Ala Leu Arg Cys Tyr Val Cys Pro Glu 25

Pro Thr Gly Val Ser Asp Cys Val Thr Ile Ala Thr Cys Thr Thr 45

Asn Glu Thr Met Cys Lys Thr Thr Leu Tyr Ser Arg Glu Ile Val 60

Tyr Pro Phe Gln Gly Asp Ser Thr Val Thr Lys Ser Cys Ala Ser 75

Lys Cys Lys Pro Ser Asp Val Asp Gly Ile Gly Gln Thr Leu Pro 80

Val Ser Cys Cys Asn Thr Glu Leu Cys Asn Val Asp Gly Ala Pro 105

Ala Leu Asn Ser Leu His Cys Gly Ala Leu Thr Leu Thr Leu Pro Leu 120

Leu Ser Leu Arg Leu
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<210> 455 <211> 1518 <212> DNA <213> Homo sapiens

<400> 455
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gcgcagcggg agctacccgg gtctttgtcg cgatggtagc ggcggctctc 200
ggcggccacc ctctgctggg agtgagcgcc accttgaact cggttctcaa 250
ttccaacgct atcaagaacc tgccccacc gctgggcggc gctgcggggc 300
acccaggctc tgcagtcagc gccgcgcgg gaatcctgta cccgggcggg 350
aataagtacc agaccattga caactaccag ccgtacccgt gcgcagagga 400
cgaggagtgc ggcactgatg agtactgcc tagtcccacc cgcggagggg 450
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atgcgtcacg ctatgtgctg ccccgggaat tactgcaaaa atggaatatg 550
tgtgtcttct gatcaaaatc atttccgagg agaaacttgag gaaaccatca 600

ctgaaagctt tggtaatgat catagcacct tggatgggta ttccagaaga 650 accaccttgt cttcaaaaat gtatcacacc aaaggacaag aaggttctgt 700 ttgtctccgg tcatcagact gtgcctcagg attgtgttgt gctagacact 750 tctggtccaa gatctgtaaa cctgtcctga aagaaggtca agtgtgtacc 800 aagcatagga gaaaaggctc tcatggacta gaaatattcc agcgttgtta 850 ctgtggagaa ggtctgtctt gccggataca gaaagatcac catcaagcca 900 gtaattette taggetteae acttgteaga gacactaaae cagetateea 950 aatgcagtga actcctttta tataatagat gctatgaaaa ccttttatga 1000 ccttcatcaa ctcaatccta aggatataca agttctgtgg tttcagttaa 1050 gcattccaat aacaccttcc aaaaacctgg agtgtaagag ctttgtttct 1100 ttatggaact cccctgtgat tgcagtaaat tactgtattg taaattctca 1150 gtgtggcact tacctgtaaa tgcaatgaaa cttttaatta tttttctaaa 1200 ggtgctgcac tgcctatttt tcctcttgtt atgtaaattt ttgtacacat 1250 tgattgttat cttgactgac aaatattcta tattgaactg aagtaaatca 1300 tttcagctta tagttcttaa aagcataacc ctttacccca tttaattcta 1350 gagtctagaa cgcaaggatc tcttggaatg acaaatgata ggtacctaaa 1400 atgtaacatg aaaatactag cttattttct gaaatgtact atcttaatgc 1450 ttaaattata tttcccttta ggctgtgata gtttttgaaa taaaatttaa 1500 catttaaaaa aaaaaaaa 1518

<210> 456

<211> 266

<212> PRT

<213> Homo sapiens

<400> 456

Met Met Ala Leu Gly Ala Ala Gly Ala Thr Arg Val Phe Val Ala 1 5 10 15

Met Val Ala Ala Ala Leu Gly Gly His Pro Leu Leu Gly Val Ser 20 25 30

Ala Thr Leu Asn Ser Val Leu Asn Ser Asn Ala Ile Lys Asn Leu 35 40 45

Pro Pro Pro Leu Gly Gly Ala Ala Gly His Pro Gly Ser Ala Val

Ser Ala Ala Pro Gly Ile Leu Tyr Pro Gly Gly Asn Lys Tyr Gln 65 70 75

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Thr Ile Asp Asn Tyr Gln Pro Tyr Pro Cys Ala Glu Asp Glu Glu
                 80
Cys Gly Thr Asp Glu Tyr Cys Ala Ser Pro Thr Arg Gly Gly Asp
                                    100
Ala Gly Val Gln Ile Cys Leu Ala Cys Arg Lys Arg Lys Arg
                                    115
Cys Met Arg His Ala Met Cys Cys Pro Gly Asn Tyr Cys Lys Asn
                125
Gly Ile Cys Val Ser Ser Asp Gln Asn His Phe Arg Gly Glu Ile
                                    145
                140
Glu Glu Thr Ile Thr Glu Ser Phe Gly Asn Asp His Ser Thr Leu
                                    160
                155
Asp Gly Tyr Ser Arg Arg Thr Thr Leu Ser Ser Lys Met Tyr His
                                     175
Thr Lys Gly Gln Glu Gly Ser Val Cys Leu Arg Ser Ser Asp Cys
                                                         195
                                     190
Ala Ser Gly Leu Cys Cys Ala Arg His Phe Trp Ser Lys Ile Cys
                                                         210
                                     205
Lys Pro Val Leu Lys Glu Gly Gln Val Cys Thr Lys His Arg Arg
                                                         225
                215
Lys Gly Ser His Gly Leu Glu Ile Phe Gln Arg Cys Tyr Cys Gly
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                                     235
Glu Gly Leu Ser Cys Arg Ile Gln Lys Asp His His Gln Ala Ser
                                     250
Asn Ser Ser Arg Leu His Thr Cys Gln Arg His
                 260
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<210> 457

<211> 638

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<221 distribute</p>
<222 30, 123, 133, 139, 180, 214, 259, 282, 308, 452, 467, 471, 473, 509, 556</p>

<223> unknown base

<400> 457

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ttttgcagcg gaacgggaag gttttgtggg acccaggttg aaatgacggt 100
cattttttt tcttctcct tcnggagtcc ttntgagang atggttttgg 150
gcgcagcggg agctaacccg gtttttgtn gcgatggtag cggcggtttt 200

cggcggccac cttntgctgg gagtgagcgc caccttgaat cggttttcaa 250 ttccaacgnt atcaagaacc tgccccacc gntgggcggc gctgcggggc 300 acccaggntt tgcagtcagc gccgcgcgg gaatcctgta cccgggcggg 350 aataagtacc agaccattga caattaccag ccgtacccgt gcgcagagga 400 cgaggagtgc ggcactgatg agtactgcgc tagtcccacc cgcggagggg 450 angcggcgt gcaaatntgt ntngcctgca ggaagcgccg aaaacgctgc 500 atgcgtcang ctatgtgctg ccccgggaat tactgcaaaa atggaatatg 550 tgtgtnttct gatcaaaatc atttccgagg agaaattgag gaaaccatca 600 ctgaaagctt tggtaatgat catagcacct tggatggg 638

<210> 458 <211> 4040 <212> DNA

<213> Homo sapiens

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tttgtaaatt tttactcccc aggctgttca cactgccatg atttagctcc 900 cacatggaga gactttgcta aagaagtgga tgggttactt cgaattggag 950 ctgttaactg tggtgatgat agaatgcttt gccgaatgaa aggaqtcaac 1000 agctatccca gtctcttcat ttttcggtct ggaatggccc cagtgaaata 1050 tcatggagac agatcaaagg agagtttagt gagttttgca atgcagcatg 1100 ttagaagtac agtgacagaa ctttggacag gaaattttgt caactccata 1150 caaactgctt ttgctgctgg tattggctgg ctgatcactt tttgttcaaa 1200 aggaggagat tgtttgactt cacagacacg actcaggctt agtggcatgt 1250 tgtttctcaa ctcattggat gctaaagaaa tatatttgga agtaatacat 1300 aatcttccag attttgaact actttcggca aacacactag aggatcgttt 1350 ggctcatcat cggtggctgt tattttttca ttttggaaaa aatgaaaatt 1400 caaatgatcc tgagctgaaa aaactaaaaa ctctacttaa aaatgatcat 1450 attcaagttg gcaggtttga ctgttcctct gcaccagaca tctgtagtaa 1500 tctgtatgtt tttcagccgt ctctagcagt atttaaagga caaggaacca 1550 aagaatatga aattcatcat ggaaagaaga ttctatatga tatacttgcc 1600 tttgccaaag aaagtgtgaa ttctcatgtt accacgcttg gacctcaaaa 1650 ttttcctgcc aatgacaaag aaccatggct tgttgatttc tttgccccct 1700 ggtgtccacc atgtcgagct ttactaccag agttacgaag agcatcaaat 1750 cttctttatg gtcagcttaa gtttggtaca ctagattgta cagttcatga 1800 gggactctgt aacatgtata acattcaggc ttatccaaca acagtggtat 1850 tcaaccagtc caacattcat gagtatgaag gacatcactc tgctgaacaa 1900 atcttggagt tcatagagga tcttatgaat ccttcagtgg tctcccttac 1950 acccaccacc ttcaacgaac tagttacaca aagaaaacac aacgaagtct 2000 ggatggttga tttctattct ccgtggtgtc atccttgcca agtcttaatg 2050 ccagaatgga aaagaatggc ccggacatta actggactga tcaacgtggg 2100 cagtatagat tgccaacagt atcattcttt ttgtgcccag gaaaacgttc 2150 aaagataccc tgagataaga ttttttcccc caaaatcaaa taaagcttat 2200 cagtatcaca gttacaatgg ttggaatagg gatgcttatt ccctgagaat 2250 ctggggtcta ggatttttac ctcaagtatc cacagatcta acacctcaga 2300

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<210> 459

<211> 747

<212> PRT

<213> Homo sapiens

<400> 459

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Arg Ile Ile Leu Cys Phe Leu Ile Val Tyr Met Ala Ile Leu Val 20 25 30

Gly Thr Asp Gln Asp Phe Tyr Ser Leu Leu Gly Val Ser Lys Thr 35 40 45

Ala Ser Ser Arg Glu Ile Arg Gln Ala Phe Lys Lys Leu Ala Leu 50 55 60

Lys Leu His Pro Asp Lys Asn Pro Asn Asn Pro Asn Ala His Gly
65 70 75

Asp Phe Leu Lys Ile Asn Arg Ala Tyr Glu Val Leu Lys Asp Glu 80 85 90

Asp Leu Arg Lys Lys Tyr Asp Lys Tyr Gly Glu Lys Gly Leu Glu 95 100 105

Asp Asn Gln Gly Gly Gln Tyr Glu Ser Trp Asn Tyr Tyr Arg Tyr 110 115 120

Asp Phe Gly Ile Tyr Asp Asp Pro Glu Ile Ile Thr Leu Glu 125 130 135

Arg Arg Glu Phe Asp Ala Ala Val Asn Ser Gly Glu Leu Trp Phe 140 145 150

Val Asn Phe Tyr Ser Pro Gly Cys Ser His Cys His Asp Leu Ala 155 160 165

Pro Thr Trp Arg Asp Phe Ala Lys Glu Val Asp Gly Leu Leu Arg 170 175 180

Ile Gly Ala Val Asn Cys Gly Asp Asp Arg Met Leu Cys Arg Met 185 190 195

Lys Gly Val Asn Ser Tyr Pro Ser Leu Phe Ile Phe Arg Ser Gly

				200					205					210
Met	Ala	Pro	Val	Lys 215	Tyr	His	Gly	Asp	Arg 220	Ser	Lys	Glu	Ser	Leu 225
Val	Ser	Phe	Ala	Met 230	Gln	His	Val	Arg	Ser 235	Thr	Val	Thr	Glu	Leu 240
Trp	Thr	Gly	Asn	Phe 245	Val	Asn	Ser	Ile	Gln 250	Thr	Ala	Phe	Ala	Ala 255
Gly	Ile	Gly	Trp	Leu 260	Ile	Thr	Phe	Cys	Ser 265	Lys	Gly	Gly	Asp	Cys 270
Leu	Thr	Ser	Gln	Thr 275	Arg	Leu	Arg	Leu	Ser 280	Gly	Met	Leu	Phe	Leu 285
Asn	Ser	Leu	Asp	Ala 290	Lys	Glu	Ile	Tyr	Leu 295	Glu	Val	Ile	His	Asn 300
Leu	Pro	Asp	Phe	Glu 305	Leu	Leu	Ser	Ala	Asn 310	Thr	Leu	Glu	Asp	Arg 315
Leu	Ala	His	His	Arg 320	Trp	Leu	Leu	Phe	Phe 325	His	Phe	Gly	Lys	Asn 330
Glu	Asn	Ser	Asn	Asp 335	Pro	Glu	Leu	Lys	Lys 340	Leu	Lys	Thr	Leu	Leu 345
Lys	Asn	Asp	His	Ile 350	Gln	Val	Gly	Arg	Phe 355	Asp	Cys	Ser	Ser	Ala 360
Pro	Asp	Ile	Cys	Ser 365	Asn	Leu	Tyr	Val	Phe 370	Gln	Pro	Ser	Leu	Ala 375
Val	Phe	Lys	Gly	Gln 380	Gly	Thr	Lys	Glu	Tyr 385	Glu	Ile	His	His	Gly 390
Lys	Lys	Ile	Leu	Tyr 395	Asp	Ile	Leu	Ala	Phe 400	Ala	Lys	Glu	Ser	Val 405
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Asp	Lys	Glu	Pro	Trp 425	Leu	Val	Asp	Phe	Phe 430	Ala	Pro	Trp	Cys	Pro 435
Pro	Cys	Arg	Ala	Leu 440	Leu	Pro	Glu	Leu	Arg 445	Arg	Ala	Ser	Asn	Leu 450
Leu	Tyr	Gly	Gln	Leu 455		Phe	Gly	Thr	Leu 460	Asp	Cys	Thr	Val	His 465
Glu	Gly	Leu	Суз	Asn 470	Met	Tyr	Asn	Ile	Gln 475	Ala	Tyr	Pro	Thr	Thr 480
Val	Val	Phe	Asn	Gln 485		Asn	Ile	His	Glu 490		Glu	Gly	His	His 495

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Ser Ala Glu Gln Ile Leu Glu Phe Ile Glu Asp Leu Met Asn Pro
Ser Val Val Ser Leu Thr Pro Thr Thr Phe Asn Glu Leu Val Thr
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Gln Arg Lys His Asn Glu Val Trp Met Val Asp Phe Tyr Ser Pro
Trp Cys His Pro Cys Gln Val Leu Met Pro Glu Trp Lys Arg Met
                                    550
Ala Arg Thr Leu Thr Gly Leu Ile Asn Val Gly Ser Ile Asp Cys
                                    565
                560
Gln Gln Tyr His Ser Phe Cys Ala Gln Glu Asn Val Gln Arg Tyr
                575
                                    580
Pro Glu Ile Arg Phe Phe Pro Pro Lys Ser Asn Lys Ala Tyr Gln
                                    595
Tyr His Ser Tyr Asn Gly Trp Asn Arg Asp Ala Tyr Ser Leu Arg
Ile Trp Gly Leu Gly Phe Leu Pro Gln Val Ser Thr Asp Leu Thr
Pro Gln Thr Phe Ser Glu Lys Val Leu Gln Gly Lys Asn His Trp
                635
Val Ile Asp Phe Tyr Ala Pro Trp Cys Gly Pro Cys Gln Asn Phe
Ala Pro Glu Phe Glu Leu Leu Ala Arg Met Ile Lys Gly Lys Val
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Lys Ala Gly Lys Val Asp Cys Gln Ala Tyr Ala Gln Thr Cys Gln
Lys Ala Gly Ile Arg Ala Tyr Pro Thr Val Lys Phe Tyr Phe Tyr
Glu Arg Ala Lys Arg Asn Phe Gln Glu Glu Gln Ile Asn Thr Arg
Asp Ala Lys Ala Ile Ala Ala Leu Ile Ser Glu Lys Leu Glu Thr
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Leu Arg Asn Gln Gly Lys Arg Asn Lys Asp Glu Leu
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<210> 460

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

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<210> 461
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 461
gatcagccag ccaataccag cagc 24
<210> 462
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 462
 gtggtgatga tagaatgctt tgccgaatga aaggagtcaa cagctatccc 50
<210> 463
<211> 1818
<212> DNA
<213> Homo sapiens
<400> 463
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 agaggagaaa atctgtggct ggggagattg ttctcattac tggagctggg 200
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 ctaggacatt tttggatcac aaaagcactt cttccatcga tgatggagag 550
 aaatcatggc cacatcgtca cagtggcttc agtgtgcggc cacgaaggga 600
 ttccttacct catcccatat tgttccagca aatttgccgc tgttggcttt 650
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aacctcatgt ctctgcccag tttttgtgaa tactgggttc accaaaaatc 750 caagcacaag attatggcct gtattggaga cagatgaagt cgtaagaagt 800 ctgatagatg gaatacttac caataagaaa atgatttttg ttccatcgta 850 tatcaatatc tttctgagac tacagaagtt tcttcctgaa cgcgcctcag 900 cgattttaaa tcgtatgcag aatattcaat ttgaagcagt ggttggccac 950 aaaatcaaaa tgaaatgaat aaataagctc cagccagaga tgtatgcatg 1000 ataatgatat gaatagtttc gaatcaatgc tgcaaagctt tatttcacat 1050 tttttcagtc ctgataatat taaaaacatt ggtttggcac tagcagcagt 1100 caaacgaaca agattaatta cctgtcttcc tgtttctcaa gaatatttac 1150 gtagtttttc ataggtctgt ttttcctttc atgcctctta aaaacttctg 1200 tgcttacata aacatactta aaaggttttc tttaagatat tttatttttc 1250 catttaaagg tggacaaaag ctacctccct aaaagtaaat acaaagagaa 1300 cttatttaca cagggaaggt ttaagactgt tcaagtagca ttccaatctg 1350 tagccatgcc acagaatatc aacaagaaca cagaatgagt gcacagctaa 1400 gagatcaagt ttcagcaggc agctttatct caacctggac atattttaag 1450 attcagcatt tgaaagattt ccctagcctc ttcctttttc attagcccaa 1500 aacggtgcaa ctctattctg gactttatta cttgattctg tcttctgtat 1550 aactctgaag tccaccaaaa gtggaccctc tatatttcct ccctttttat 1600 agtettataa gatacattat gaaaggtgae egaetetatt ttaaatetea 1650 gaattttaag ttctagcccc atgataacct ttttctttgt aatttatgct 1700 ttcatatatc cttggtccca gagatgttta gacaatttta ggctcaaaaa 1750 ttaaagctaa cacaggaaaa ggaactgtac tggctattac ataagaaaca 1800

<210> 464

<211> 300

<212> PRT

<213> Homo sapiens

atggacccaa gagaagaa 1818

<400> 464

Met Asn Ile Ile Leu Glu Ile Leu Leu Leu Leu Ile Thr Ile Ile 1 5 10 15

Tyr Ser Tyr Leu Glu Ser Leu Val Lys Phe Phe Ile Pro Gln Arg 20 25 30

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Arg Lys Ser Val Ala Gly Glu Ile Val Leu Ile Thr Gly Ala Gly
His Gly Ile Gly Arg Gln Thr Thr Tyr Glu Phe Ala Lys Arg Gln
Ser Ile Leu Val Leu Trp Asp Ile Asn Lys Arg Gly Val Glu Glu
Thr Ala Ala Glu Cys Arg Lys Leu Gly Val Thr Ala His Ala Tyr
Val Val Asp Cys Ser Asn Arg Glu Glu Ile Tyr Arg Ser Leu Asn
Gln Val Lys Lys Glu Val Gly Asp Val Thr Ile Val Val Asn Asn
                                    115
Ala Gly Thr Val Tyr Pro Ala Asp Leu Leu Ser Thr Lys Asp Glu
Glu Ile Thr Lys Thr Phe Glu Val Asn Ile Leu Gly His Phe Trp
Ile Thr Lys Ala Leu Leu Pro Ser Met Met Glu Arg Asn His Gly
                155
His Ile Val Thr Val Ala Ser Val Cys Gly His Glu Gly Ile Pro
                170
Tyr Leu Ile Pro Tyr Cys Ser Ser Lys Phe Ala Ala Val Gly Phe
                                    190
His Arg Gly Leu Thr Ser Glu Leu Gln Ala Leu Gly Lys Thr Gly
                                    205
Ile Lys Thr Ser Cys Leu Cys Pro Val Phe Val Asn Thr Gly Phe
                                    220
Thr Lys Asn Pro Ser Thr Arg Leu Trp Pro Val Leu Glu Thr Asp
                                    235
                230
Glu Val Val Arg Ser Leu Ile Asp Gly Ile Leu Thr Asn Lys Lys
                                    250
Met Ile Phe Val Pro Ser Tyr Ile Asn Ile Phe Leu Arg Leu Gln
                                    265
Lys Phe Leu Pro Glu Arg Ala Ser Ala Ile Leu Asn Arg Met Gln
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Asn Ile Gln Phe Glu Ala Val Val Gly His Lys Ile Lys Met Lys
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<210> 465

<211> 1547

<212> DNA

<213> Homo sapiens

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gcaatctggg cttcttgttc actccactgc ctctatccat tgagtactgt 1500 atcgatattg ttttttaaga ttaatatatt tcaggtattt aatacga 1547

<210> 466

<211> 414

<212> PRT

<213> Homo sapiens

<400> 466

Met Thr Lys Ala Arg Leu Phe Arg Leu Trp Leu Val Leu Gly Ser 1 5 10 15

Val Phe Met Ile Leu Leu Ile Ile Val Tyr Trp Asp Ser Ala Gly
20 25 30

Ala Ala His Phe Tyr Leu His Thr Ser Phe Ser Arg Pro His Thr 35 40 45

Gly Pro Pro Leu Pro Thr Pro Gly Pro Asp Arg Asp Arg Glu Leu 50 55 60

Thr Ala Asp Ser Asp Val Asp Glu Phe Leu Asp Lys Phe Leu Ser
65 70 75

Ala Gly Val Lys Gln Ser Asp Leu Pro Arg Lys Glu Thr Glu Gln
80 85 90

Pro Pro Ala Pro Gly Ser Met Glu Glu Ser Val Arg Gly Tyr Asp 95 100 105

Trp Ser Pro Arg Asp Ala Arg Arg Ser Pro Asp Gln Gly Arg Gln 110 115 120

Gln Ala Glu Arg Arg Ser Val Leu Arg Gly Phe Cys Ala Asn Ser 125 130 135

Ser Leu Ala Phe Pro Thr Lys Glu Arg Ala Phe Asp Asp Ile Pro
140 145 150

Asn Ser Glu Leu Ser His Leu Ile Val Asp Asp Arg His Gly Ala 155 160 165

Ile Tyr Cys Tyr Val Pro Lys Val Ala Cys Thr Asn Trp Lys Arg 170 175 180

Val Met Ile Val Leu Ser Gly Ser Leu Leu His Arg Gly Ala Pro 185 190 195

Tyr Arg Asp Pro Leu Arg Ile Pro Arg Glu His Val His Asn Ala 200 205 210

Ser Ala His Leu Thr Phe Asn Lys Phe Trp Arg Arg Tyr Gly Lys 215 220 225

Leu Ser Arg His Leu Met Lys Val Lys Leu Lys Lys Tyr Thr Lys 230 235 240

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Phe Leu Phe Val Arg Asp Pro Phe Val Arg Leu Ile Ser Ala Phe
                                     250
                                                         255
                245
Arg Ser Lys Phe Glu Leu Glu Asn Glu Glu Phe Tyr Arg Lys Phe
                260
Ala Val Pro Met Leu Arg Leu Tyr Ala Asn His Thr Ser Leu Pro
                                    280
Ala Ser Ala Arg Glu Ala Phe Arg Ala Gly Leu Lys Val Ser Phe
                290
Ala Asn Phe Ile Gln Tyr Leu Leu Asp Pro His Thr Glu Lys Leu
                                     310
                305
Ala Pro Phe Asn Glu His Trp Arg Gln Val Tyr Arg Leu Cys His
                                     325
                320
Pro Cys Gln Ile Asp Tyr Asp Phe Val Gly Lys Leu Glu Thr Leu
                                     340
Asp Glu Asp Ala Ala Gln Leu Leu Gln Leu Leu Gln Val Asp Arg
                                     355
Gln Leu Arg Phe Pro Pro Ser Tyr Arg Asn Arg Thr Ala Ser Ser
                                     370
Trp Glu Glu Asp Trp Phe Ala Lys Ile Pro Leu Ala Trp Arg Gln
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Gln Leu Tyr Lys Leu Tyr Glu Ala Asp Phe Val Leu Phe Gly Tyr
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Pro Lys Pro Glu Asn Leu Leu Arg Asp
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<210> 467

<211> 1071

<212> DNA

<213> Homo sapiens

<400> 467
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acgggatggc tacgggaacg cgctatgccg ggaaggtggt ggtcgtgacc 150
gggggcgggc gcggcatcgg agctgggatc gtgcgcgcct tcgtgaacag 200
cggggcccga gtggttatct gcgacaagga tgagtctggg ggccgggccc 250
tggagcagga gctccctgga gctgtcttta tcctctgtga tgtgactcag 300
gaagatgatg tgaagaccct ggttctgag accatccgcc gatttggccg 350
cctggattgt gttgtcaaca acgctggcca ccacccaccc ccacagaggc 400

ctgaggagac ctctgccag ggattccgcc agctgctgga gctgaaccta 450 ctggggacgt acaccttgac caagctcgcc ctcccctacc tgcggaagag 500 tcaagggaat gtcatcaaca tctccagcct ggtgggggca atcggccagg 550 cccaggcagt tccctatgtg gccaccaagg gggcagtaac agccatgacc 600 aaagctttgg ccctggatga aagtccatat ggtgtccgag tcaactgtat 650 ctcccagga aacatctgga ccccgctgtg ggaggagctg gcagccttaa 700 tgccagaccc tagggccaca atccgagagg gcatgctggc ccagccactg 750 ggccgcatgg gccagcccgc tgaggtcgg gctgcggag tgttcctggc 800 ctccgaagcc aacttctgca cgggcattga actgctcgtg acggggggtg 850 cagagctggg gtacgggtg aaggccagtc ggagcaccc cgtggacgcc 900 cccgatatcc ctcctgatt tctctcattt ctacttgggg ccccctacct 950 aggactctcc caccccaaac tccaacctgt atcagatgca gcccccaagc 1000 ccttagactc taagcccagt tagcaaggtg ccgggtcacc ctgcaggttc 1050 ccataaaaac gatttgcagc c 1071

<210> 468

<211> 270

<212> PRT

<213> Homo sapiens

<400> 468

Met Ala Thr Gly Thr Arg Tyr Ala Gly Lys Val Val Val Val Thr 1 5 10 15

Gly Gly Gly Arg Gly Ile Gly Ala Gly Ile Val Arg Ala Phe Val
20 25 30

Asn Ser Gly Ala Arg Val Val Ile Cys Asp Lys Asp Glu Ser Gly 35 40 45

Gly Arg Ala Leu Glu Glu Leu Pro Gly Ala Val Phe Ile Leu
50 55 60

Cys Asp Val Thr Gln Glu Asp Asp Val Lys Thr Leu Val Ser Glu 65 70 75

Thr Ile Arg Arg Phe Gly Arg Leu Asp Cys Val Val Asn Asn Ala 80 85 90

Gly His His Pro Pro Pro Gln Arg Pro Glu Glu Thr Ser Ala Gln 95 100

Gly Phe Arg Gln Leu Leu Glu Leu Asn Leu Leu Gly Thr Tyr Thr 110 115 120

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Leu Thr Lys Leu Ala Leu Pro Tyr Leu Arg Lys Ser Gln Gly Asn
Val Ile Asn Ile Ser Ser Leu Val Gly Ala Ile Gly Gln Ala Gln
                                     145
                140
Ala Val Pro Tyr Val Ala Thr Lys Gly Ala Val Thr Ala Met Thr
                155
                                     160
Lys Ala Leu Ala Leu Asp Glu Ser Pro Tyr Gly Val Arg Val Asn
                                                         180
Cys Ile Ser Pro Gly Asn Ile Trp Thr Pro Leu Trp Glu Glu Leu
Ala Ala Leu Met Pro Asp Pro Arg Ala Thr Ile Arg Glu Gly Met
                200
Leu Ala Gln Pro Leu Gly Arg Met Gly Gln Pro Ala Glu Val Gly
                215
                                     220
Ala Ala Ala Val Phe Leu Ala Ser Glu Ala Asn Phe Cys Thr Gly
                                                         240
                                     235
                230
Ile Glu Leu Leu Val Thr Gly Gly Ala Glu Leu Gly Tyr Gly Cys
                                     250
Lys Ala Ser Arg Ser Thr Pro Val Asp Ala Pro Asp Ile Pro Ser
                                                         270
                260
                                     265
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<210> 469

<211> 687

<212> DNA

<213> Homo sapiens

<400> 469
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cctcacaacc tgctgtttct tcttaccatt tccatcttcc tggggctggg 100
ccagcccagg agccccaaaa gcaagaggaa ggggcaaggg cggcctgggc 150
ccctggcccc tggccctcac caggtgccac tggacctggt gtcacggatg 200
aaaccgtatg cccgcatgga ggagtatgag aggaacatcg aggagtaggt 250
ggcccagctg aggaacagct cagagctggc ccagagaaag tgtgaggtca 300
acttgcagct gtggatgtcc aacaagagga gcctgtctcc ctggggctac 350
agcatcaacc acgacccaag ccgtatcccc gtggacctgc cggaggcacg 400
gtgcctgtgt ctgggctgtg tgaacccctt caccatgcag gaggaccgca 450
gcatggtgag cgtgccggtg ttcagccagg ttcctgtgcg ccgccgcctc 500
tgcccgccac cgccccgcac agggccttgc cgccagcgcg cagtcatgga 550

gaccateget gtgggetgea cetgeatett etgaateace tggeecagaa 600 geeaggeeag cageeegaga ceateeteet tgeacetttg tgeeaagaaa 650 ggeetatgaa aagtaaacae tgaettttga aageaag 687

<210> 470

<211> 180

<212> PRT

<213> Homo sapiens

<400> 470

Met Asp Trp Pro His Asn Leu Leu Phe Leu Leu Thr Ile Ser Ile 1 10 15

Phe Leu Gly Leu Gly Gln Pro Arg Ser Pro Lys Ser Lys Arg Lys 20 25 30

Gly Gln Gly Arg Pro Gly Pro Leu Ala Pro Gly Pro His Gln Val 35 40 45

Pro Leu Asp Leu Val Ser Arg Met Lys Pro Tyr Ala Arg Met Glu 50 55 60

Glu Tyr Glu Arg Asn Ile Glu Glu Met Val Ala Gln Leu Arg Asn 65 70 75

Ser Ser Glu Leu Ala Gln Arg Lys Cys Glu Val Asn Leu Gln Leu 80 85 90

Trp Met Ser Asn Lys Arg Ser Leu Ser Pro Trp Gly Tyr Ser Ile 95 100 105

Asn His Asp Pro Ser Arg Ile Pro Val Asp Leu Pro Glu Ala Arg 110 115 120

Cys Leu Cys Leu Gly Cys Val Asn Pro Phe Thr Met Gln Glu Asp 125 130 135

Arg Ser Met Val Ser Val Pro Val Phe Ser Gln Val Pro Val Arg
140 145 150

Arg Arg Leu Cys Pro Pro Pro Pro Arg Thr Gly Pro Cys Arg Gln
155 160 165

Arg Ala Val Met Glu Thr Ile Ala Val Gly Cys Thr Cys Ile Phe 170 175 180

<210> 471

<211> 2368

<212> DNA

<213> Homo sapiens

<400> 471

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ctcccgccg agaagcctcg ctcggcgccc aacatggcgg gtgggcgctg 150 cggcccgcag ctaacggcgc tcctggccgc ctggatcgcg gctgtggcgg 200 cgacggcagg ccccgaggag gccgcgctgc cgccggagca gagccgggtc 250 cagcccatga ccgcctccaa ctggacgctg gtgatggagg gcgagtggat 300 gctgaaattt tacgccccat ggtgtccatc ctgccagcag actgattcag 350 aatgggaggc ttttgcaaag aatggtgaaa tacttcagat cagtgtgggg 400 aaggtagatg tcattcaaga accaggtttg agtggccgct tctttgtcac 450 cactctccca gcattttttc atgcaaagga tgggatattc cgccgttatc 500 gtggcccagg aatcttcgaa gacctgcaga attatatctt agagaagaaa 550 tggcaatcag tcgagcctct gactggctgg aaatccccag cttctctaac 600 gatgtctgga atggctggtc tttttagcat ctctggcaag atatggcatc 650 ttcacaacta tttcacagtg actcttggaa ttcctgcttg gtgttcttat 700 gtgtttttcg tcatagccac cttggttttt ggccttttta tgggtctggt 750 cttggtggta atatcagaat gtttctatgt gccacttcca aggcatttat 800 ctgagcgttc tgagcagaat cggagatcag aggaggctca tagagctgaa 850 cagttgcagg atgcggagga ggaaaaagat gattcaaatg aagaagaaaa 900 caaagacagc cttgtagatg atgaagaaga gaaagaagat cttggcgatg 950 aggatgaagc agaggaagaa gaggaggagg acaacttggc tgctggtgtg 1000 gatgaggaga gaagtgaggc caatgatcag gggcccccag gagaggacgg 1050 tgtgacccgg gaggaagtag agcctgagga ggctgaagaa ggcatctctg 1100 agcaaccetg cecagetgae acagaggtgg tggaagaete ettgaggeag 1150 cgtaaaagtc agcatgctga caagggactg tagatttaat gatgcgtttt 1200 caagaataca caccaaaaca atatgtcagc ttccctttgg cctgcagttt 1250 gtaccaaatc cttaattttt cctgaatgag caagcttctc ttaaaagatg 1300 ctctctagtc atttggtctc atggcagtaa gcctcatgta tactaaggag 1350 agtcttccag gtgtgacaat caggatatag aaaaacaaac gtagtgttgg 1400 gatctgtttg gagactggga tgggaacaag ttcatttact taggggtcag 1450 agagtetega ceagaggagg ceatteceag tectaateag cacetteeag 1500 agacaaggct gcaggccctg tgaaatgaaa gccaagcagg agccttggct 1550

cctgagcatc cccaaagtgt aacgtagaag ccttgcatcc ttttcttgtg 1600 taaagtattt atttttgtca aattgcagga aacatcaggc accacagtgc 1650 atgaaaaatc tttcacagct agaaattgaa agggccttgg gtatagagag 1700 cagetcagaa qtcatcccag ccetctgaat ctcctgtgct atgttttatt 1750 tottaccttt aatttttcca gcatttccac catgggcatt caggctctcc 1800 acactettea etattatete ttggteagag gaeteeaata acageeaggt 1850 ttacatgaac tgtgtttgtt cattctgacc taaggggttt agataatcag 1900 taaccataac ccctgaaget gtgactgcca aacatctcaa atgaaatgtt 1950 qtqqccatca qaqactcaaa aggaagtaag gattttacaa gacagattaa 2000 aaaaaaattg ttttgtccaa aatatagttg ttgttgattt ttttttaagt 2050 tttctaagca atattttca agccagaagt cctctaagtc ttgccagtac 2100 gggttccctg ggtcttgaac tactttaata ataactaaaa aaccacttct 2200 gattttcctt cagtgatgtg cttttggtga aagaattaat gaactccagt 2250 acctgaaagt gaaagatttg attttgtttc catcttctgt aatcttccaa 2300 agaattatat ctttgtaaat ctctcaatac tcaatctact gtaagtaccc 2350 agggaggcta atttcttt 2368

<210> 472

<211> 349

<212> PRT

<213> Homo sapiens

<400> 472

Met Ala Gly Gly Arg Cys Gly Pro Gln Leu Thr Ala Leu Leu Ala 1 5 10 15

Ala Trp Ile Ala Ala Val Ala Ala Thr Ala Gly Pro Glu Glu Ala 20 25 30

Ala Leu Pro Pro Glu Gln Ser Arg Val Gln Pro Met Thr Ala Ser 35 40 45

Asn Trp Thr Leu Val Met Glu Gly Glu Trp Met Leu Lys Phe Tyr 50 55 60

Ala Pro Trp Cys Pro Ser Cys Gln Gln Thr Asp Ser Glu Trp Glu 65 70 75

Ala Phe Ala Lys Asn Gly Glu Ile Leu Gln Ile Ser Val Gly Lys $80 \hspace{1cm} 85 \hspace{1cm} 90 \hspace{1cm}$

Val Asp Val Ile Gln Glu Pro Gly Leu Ser Gly Arg Phe Phe Val Thr Thr Leu Pro Ala Phe Phe His Ala Lys Asp Gly Ile Phe Arg Arg Tyr Arg Gly Pro Gly Ile Phe Glu Asp Leu Gln Asn Tyr Ile Leu Glu Lys Lys Trp Gln Ser Val Glu Pro Leu Thr Gly Trp Lys 145 Ser Pro Ala Ser Leu Thr Met Ser Gly Met Ala Gly Leu Phe Ser 160 155 Ile Ser Gly Lys Ile Trp His Leu His Asn Tyr Phe Thr Val Thr 170 175 Leu Gly Ile Pro Ala Trp Cys Ser Tyr Val Phe Phe Val Ile Ala 190 Thr Leu Val Phe Gly Leu Phe Met Gly Leu Val Leu Val Val Ile 205 Ser Glu Cys Phe Tyr Val Pro Leu Pro Arg His Leu Ser Glu Arg Ser Glu Gln Asn Arg Arg Ser Glu Glu Ala His Arg Ala Glu Gln 235 Leu Gln Asp Ala Glu Glu Glu Lys Asp Asp Ser Asn Glu Glu Glu Asn Lys Asp Ser Leu Val Asp Asp Glu Glu Lys Glu Asp Leu Gly Asp Glu Asp Glu Ala Glu Glu Glu Glu Glu Glu Asp Asn Leu Ala Ala Gly Val Asp Glu Glu Arg Ser Glu Ala Asn Asp Gln Gly Pro Pro Gly Glu Asp Gly Val Thr Arg Glu Glu Val Glu Pro Glu 310 Glu Ala Glu Glu Gly Ile Ser Glu Gln Pro Cys Pro Ala Asp Thr 325 Glu Val Val Glu Asp Ser Leu Arg Gln Arg Lys Ser Gln His Ala 340

Asp Lys Gly Leu

<210> 473

<211> 24

<212> DNA

<213> Artificial Sequence

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<400> 473
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<210> 474
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 474
ctctcctcat ccacaccagc agcc 24
<210> 475
<211> 44
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 475
 gtggatgctg aaattttacg ccccatggtg tccatcctgc cagc 44
<210> 476
<211> 2478
<212> DNA
<213> Homo sapiens
<400> 476
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 gcccacatga tttgactcag agattctctt ttgtccacag acagtcatct 100
 caggggcaga aagaaaagag ctcccaaatg ctatatctat tcaggggctc 150
 tcaagaacaa tggaatatca tcctgattta gaaaatttgg atgaagatgg 200
 atatactcaa ttacacttcg actctcaaag caataccagg atagctgttg 250
 tttcagagaa aggatcgtgt gctgcatctc ctccttggcg cctcattgct 300
 qtaattttqq qaatcctatg cttggtaata ctggtgatag ctgtggtcct 350
 gggtaccatg ggggttcttt ccagcccttg tcctcctaat tggattatat 400
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 ctcaaatgaa ttgggattta tagtaaaaca agtgtcttcc caacctgata 550
 attcattttg gataggcctt tctcggcccc agactgaggt accatggctc 600
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<210> 477 <211> 201 <212> PRT

<213> Homo sapiens

Ile Ala Val Ile Leu Gly Ile Leu Cys Leu Val Ile Leu Val Ile 50 55 60

Ala Val Val Leu Gly Thr Met Gly Val Leu Ser Ser Pro Cys Pro
65 70 75

Pro Asn Trp Ile Ile Tyr Glu Lys Ser Cys Tyr Leu Phe Ser Met 80 85 90

Ser Leu Asn Ser Trp Asp Gly Ser Lys Arg Gln Cys Trp Gln Leu 95 100 105

Gly Ser Asn Leu Leu Lys Ile Asp Ser Ser Asn Glu Leu Gly Phe 110 115 120

Ile Val Lys Gln Val Ser Ser Gln Pro Asp Asn Ser Phe Trp Ile 125 130 135

Gly Leu Ser Arg Pro Gln Thr Glu Val Pro Trp Leu Trp Glu Asp 140 145 150

Gly Ser Thr Phe Ser Ser Asn Leu Phe Gln Ile Arg Thr Thr Ala 155 160 165

Thr Gln Glu Asn Pro Ser Pro Asn Cys Val Trp Ile His Val Ser

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Val Ile Tyr Asp Gln Leu Cys Ser Val Pro Ser Tyr Ser Ile Cys 185 190 195

Glu Lys Lys Phe Ser Met 200

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<212> PRT

<213> Homo sapiens

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Leu His Tyr Lys Pro Thr Pro Asp Leu Arg Ile Ser Ile Glu Asn 50 55 60

Ser Glu Glu Ala Leu Thr Val His Ala Pro Phe Pro Ala Ala His 65 70 75

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Суз	Leu	Tyr	Trp	Asn 95	Arg	His	Ala	Gly	Arg 100	Leu	His	Leu	Leu	Tyr 105
Gly	Lys	Arg	Asp	Phe 110	Leu	Leu	Ser	Asp	Lys 115	Ala	Ser	Ser	Leu	Leu 120
Cys	Phe	Gln	His	Gln 125	Glu	Glu	Ser	Leu	Ala 130	Gln	Gly	Pro	Pro	Leu 135
Leu	Ala	Thr	Ser	Val 140	Thr	Ser	Trp	Trp	Ser 145	Pro	Gln	Asn	Ile	Ser 150
Leu	Pro	Ser	Ala	Ala 155	Ser	Phe	Thr	Phe	Ser 160	Phe	His	Ser	Pro	Pro 165
His	Thr	Ala	Ala	His 170	Asn	Ala	Ser	Val	Asp 175	Met	Cys	Glu	Leu	Lys 180
Arg	Asp	Leu	Gln	Leu 185	Leu	Ser	Gln	Phe	Leu 190	Lys	His	Pro	Gln	Lys 195
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Val	Ser	Phe	Glu	Glu 230	Asp	Arg	Ile	Asn	Ala 235	Thr	Val	Trp	Lys	Leu 240
Gln	Pro	Thr	Ala	Gly 245	Leu	Gln	Asp	Leu	His 250	Ile	His	Ser	Arg	Gln 255
Glu	Glu	Glu	Gln	Ser 260	Glu	Ile	Met	Glu	туr 265	Ser	Val	Leu	Leu	Pro 270
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Lys	Arg	Leu	Leu	Leu 290	Val	Asp	Phe	Ser	Ser 295	Gln	Ala	Leu	Phe	Gln 300
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Val	Val	Gln	Asn	Thr 320	Lys	Val	Ala	Asn	Leu 325	Thr	Glu	Pro	Val	Val 330
Leu	Thr	Phe	Gln	His 335	Gln	Leu	Gln	Pro	Lys 340	Asn	Val	Thr	Leu	Gln 345
Cys	, Val	Phe	Trp	Val 350	Glu	Asp	Pro	Thr	Leu 355	Ser	Ser	Pro	Gly	His 360
Trp	Ser	Ser	Ala	Gly	Cys	Glu	Thr	Val	Arg	Arg	Glu	Thr	Gln	Thr

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Ser	Суз	Phe	Cys	Asn 380	His	Leu	Thr	Tyr	Phe 385	Ala	Val	Leu	Met	Val 390
Ser	Ser	Val	Glu	Val 395	Asp	Ala	Val	His	Lys 400	His	Tyr	Leu	Ser	Leu 405
Leu	Ser	Tyr	Val	Gly 410	Cys	Val	Val	Ser	Ala 415	Leu	Ala	Cys	Leu	Val 420
Thr	Ile	Ala	Ala	Tyr 425	Leu	Cys	Ser	Arg	Val 430	Pro	Leu	Pro	Cys	Arg 435
Arg	Lys	Pro	Arg	Asp 440	Tyr	Thr	Ile	Lys	Val 445	His	Met	Asn	Leu	Leu 450
Leu	Ala	Val	Phe	Leu 455	Leu	Asp	Thr	Ser	Phe 460	Leu	Leu	Ser	Glu	Pro 465
Val	Ala	Leu	Thr	Gly 470	Ser	Glu	Ala	Gly	Cys 475	Arg	Ala	Ser	Ala	Ile 480
Phe	Leu	His	Phe	Ser 485	Leu	Leu	Thr	Cys	Leu 490	Ser	Trp	Met	Gly	Leu 495
Glu	Gly	Tyr	Asn	Leu 500	Tyr	Arg	Leu	Val	Val 505	Glu	Val	Phe	Gly	Thr 510
Tyr	Val	Pro	Gly	Tyr 515	Leu	Leu	Lys	Leu	Ser 520	Ala	Met	Gly	Trp	Gly 525
Phe	Pro	Ile	Phe	Leu 530	Val	Thr	Leu	Val	Ala 535	Leu	Val	Asp	Val	Asp 540
Asn	Tyr	Gly	Pro	Ile 545	Ile	Leu	Ala	Val	His 550	Arg	Thr	Pro	Glu	Gly 555
Val	Ile	Tyr	Pro	Ser 560	Met	Суз	Trp	Ile	Arg 565	Asp	Ser	Leu	Val	Ser 570
Tyr	Ile	Thr	Asn	Leu 575		Leu	Phe	Ser	Leu 580	Val	Phe	Leu	Phe	Asn 585
Met	Ala	Met	Leu	Ala 590	Thr	Met	Val	Val	Gln 595	Ile	Leu	Arg	Leu	Arg 600
Pro	His	Thr	Gln	Lys 605		Ser	His	Val	Leu 610		Leu	Leu	Gly	Leu 615
Ser	Leu	Val	Leu	Gly 620		Pro	Trp	Ala	Leu 625		Phe	Phe	Ser	Phe 630
Ala	Ser	Gly	Thr	Phe 635		Leu	Val	Val	Leu 640		Leu	Phe	Ser	Ile 645
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<213> Homo sapiens

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His Glu Arg Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser 50 55 60

Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp 65 70 75

Arg Leu Val Ala Val Glu Glu Asn Val Trp Ile Gln Leu Thr Phe 80 85 90

Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile Cys Lys 95 100 105

Tyr Asp Phe Val Glu Val Glu Glu Pro Ser Asp Gly Thr Ile Leu
110 115 120

Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly Lys Gln Ile Ser 125 130 135

Lys Gly Asn Gln Ile Arg Ile Arg Phe Val Ser Asp Glu Tyr Phe 140 145 150

Pro Ser Glu Pro Gly Phe Cys Ile His Tyr Asn Ile Val Met Pro 155 160 165

Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu Pro Pro Ser Ala 170 175 180

Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala Phe Ser Thr 185 190 195

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                 230
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Ser Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe
Trp Pro Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys Ala
Cys Cys Leu His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys
Val Thr Lys Lys Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr
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Leu Val Glu Ile Asp Phe Arg Cys Asn Cys Val Pro Ile Pro Leu 95 100 105

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Gly	Lys	Ser	Ile	Val 815	Ser	Leu	Glu	Leu	Thr 820	Thr	Cys	Val	Ser	Asp 825
Val	Thr	Ala	Val	Ile 830		Phe	Phe	Phe	Thr 835	Phe	Phe	Ile	Thr	Thr 840
Met	Val	Met	Leu	Ala 845	Ala	Leu	Ala	His	His 850		Phe	Tyr	Trp	Asp 855
Val	Trp	Phe	Ile	Tyr 860		Val	Cys	Leu	Ala 865	Lys	Val	Lys	Gly	Tyr 870
Arg	Ser	Leu	Ser	Thr 875		Gln	Thr	Phe	Tyr 880	Asp	Ala	Tyr	Ile	Ser 885
Tyr	Asp	Thr	Lys	890		Ser	Val	Thr	Asp 895	Trp	Val	Ile	Asn	Glu 900
Leu	Arg	Tyr	His	Leu 905		Glu	Ser	Arg	Asp 910		Asn	Val	. Leu	Leu 915
Cys	Leu	Glu	ı Glu	Arg 920		Trp	Asp	Pro	Gly 925	Leu	Ala	Ile	lle	Asp 930

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Leu Thr Lys Lys Tyr Ala Lys Ser Trp Asn Phe Lys Thr Ala Phe
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                                     955
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Ile Phe Ile Leu Leu Glu Pro Val Leu Gln His Ser Gln Tyr Leu
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Asp Asn Pro Lys Ala Glu Gly Leu Phe Trp Gln Thr Leu Arg Asn
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gcccaacttg tttattgcag cttataatgg ttacaaat 1738
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<210> 506

<211> 273

<212> PRT

<213> Homo sapiens

<400> 506

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Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val
Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg
Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro
Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala
Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro
Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln
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Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln
Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu
                155
Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly
Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala
                185
Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu
Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala
                215
Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu
Val His Ser Phe Gln Gln Leu Gly Arg Ile Asp Ser Leu Ser Glu
Gln Ile Ser Phe Leu Glu Glu Gln Leu Gly Ser Cys Ser Cys Lys
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Lys Asp Ser

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<210> 508

<211> 273

<212> PRT

<213> Homo sapiens

<400> 508

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Ala Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val 20 25 30

Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val 35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
50 55 60

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg 65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro 80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala 95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln 125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln 140 145 150

Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu
155 160 165

Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly
170 175 180

Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala 185 190 195

Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu 200 205 210 Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu 230 Val His Ser Phe Gln Gln Leu Gly Arg Ile Asp Ser Leu Ser Glu Gln Ile Ser Phe Leu Glu Glu Gln Leu Gly Ser Cys Ser Cys Lys

Lys Asp Ser

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<211> 273

<212> PRT

<213> Homo sapiens

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Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val 35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg
50 55 60

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg
65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro 80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala 95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro 110 115 120

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln
125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln

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Arg Cys Val As	n Thr Ala 155	Gly Ser Ty	r Trp Cys 160	Gln Cys	Trp Glu 165					
Gly His Ser Le	u Ser Ala 1 170	Asp Gly Th	r Leu Cys 175	Val Pro	Lys Gly 180					
Gly Pro Pro Ar	g Val Ala 185	Pro Asn Pr	o Thr Gly 190	Val Asp	Ser Ala 195					
Met Lys Glu Gl	u Val Gln 2 200	Arg Leu Gl	n Ser Arg 205	Val Asp	Leu Leu 210					
Glu Glu Lys Le	u Gln Leu 215	Val Leu Al	a Pro Leu 220	His Ser	Leu Ala 225					
Ser Gln Ala Le	u Glu His 230	Gly Leu Pr	o Asp Pro 235	Gly Ser	Leu Leu 240					
Val His Ser Ph	e Gln Gln : 245	Leu Gly Ar	g Ile Asp 250	Ser Leu	Ser Glu 255					
Gln Ile Ser Ph	e Leu Glu 260	Glu Gln Le	u Gly Ser 265	Cys Ser	Cys Lys 270					
Lys Asp Ser										
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<212> PRT

<213> Homo sapiens

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Leu Gly Thr Cys Thr Leu Phe Phe Ala Phe Glu Cys Arg Tyr Leu
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Ala Val Gln Leu Ser Pro Ala Ile Pro Val Phe Ala Ala Met Leu 65 70 75

Phe Leu Phe Ser Met Ala Thr Leu Leu Arg Thr Ser Phe Ser Asp 80 85 90

Pro Gly Val Ile Pro Arg Ala Leu Pro Asp Glu Ala Ala Phe Ile 95 100 105

Glu Met Glu Ile Glu Ala Thr Asn Gly Ala Val Pro Gln Gly Gln
110 115 120

Arg Pro Pro Pro Arg Ile Lys Asn Phe Gln Ile Asn Asn Gln Ile
125
130
135

Val Lys Leu Lys Tyr Cys Tyr Thr Cys Lys Ile Phe Arg Pro Pro 140 145 150

Arg Ala Ser His Cys Ser Ile Cys Asp Asn Cys Val Glu Arg Phe 155 160 165

Asp His His Cys Pro Trp Val Gly Asn Cys Val Gly Lys Arg Asn 170 175 180

Tyr Arg Tyr Phe Tyr Leu Phe Ile Leu Ser Leu Ser Leu Leu Thr 185 190 195

Ile Tyr Val Phe Ala Phe Asn Ile Val Tyr Val Ala Leu Lys Ser 200 205 210

Leu Lys Ile Gly Phe Leu Glu Thr Leu Lys Glu Thr Pro Gly Thr 215 220 225

Val Leu Glu Val Leu Ile Cys Phe Phe Thr Leu Trp Ser Val Val

230 235 240

Gly Leu Thr Gly Phe His Thr Phe Leu Val Ala Leu Asn Gln Thr 245 250 255

Thr Asn Glu Asp Ile Lys Gly Ser Trp Thr Gly Lys Asn Arg Val 260 265 270

Gln Asn Pro Tyr Ser His Gly Asn Ile Val Lys Asn Cys Cys Glu 275 280 285

Val Leu Cys Gly Pro Leu Pro Pro Ser Val Leu Asp Arg Arg Gly 290 295 300

Ile Leu Pro Leu Glu Glu Ser Gly Ser Arg Pro Pro Ser Thr Gln 305 310 315

Glu Thr Ser Ser Ser Leu Leu Pro Gln Ser Pro Ala Pro Thr Glu 320 325 330

His Leu Asn Ser Asn Glu Met Pro Glu Asp Ser Ser Thr Pro Glu 335 340 345

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Glu Ala Glu Lys

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Thr Val Arg Gln Gly Glu Ser Ala Thr Leu Arg Cys Thr Ile Asp
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Asn Arg Val Thr Arg Val Ala Trp Leu Asn Arg Ser Thr Ile Leu 65 70 75

Tyr Ala Gly Asn Asp Lys Trp Cys Leu Asp Pro Arg Val Val Leu 80 85 90

Leu Ser Asn Thr Gln Thr Gln Tyr Ser Ile Glu Ile Gln Asn Val 95 100 105

Asp Val Tyr Asp Glu Gly Pro Tyr Thr Cys Ser Val Gln Thr Asp 110 115 120

Asn His Pro Lys Thr Ser Arg Val His Leu Ile Val Gln Val Ser 125 130 135

Pro Lys Ile Val Glu Ile Ser Ser Asp Ile Ser Ile Asn Glu Gly 140 145 150

Asn Asn Ile Ser Leu Thr Cys Ile Ala Thr Gly Arg Pro Glu Pro 155 160 165

Thr Val Thr Trp Arg His Ile Ser Pro Lys Ala Val Gly Phe Val 170 175 180

Ser Glu Asp Glu Tyr Leu Glu Ile Gln Gly Ile Thr Arg Glu Gln 185 190 195

Ser Gly Asp Tyr Glu Cys Ser Ala Ser Asn Asp Val Ala Ala Pro 200 205 210

Val Val Arg Arg Val Lys Val Thr Val Asn Tyr Pro Pro Tyr Ile 215 220 225

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Ser Glu His Asp Tyr Gly Asn 290	Tyr Thr Cys Val Ala Ser Asn Ly 295	ys 00
Leu Gly His Thr Asn Ala Ser 305	Ile Met Leu Phe Gly Pro Gly A33	la 15
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Phe	Glu	Ser	Ala	Gln 380	Glu	Lys	Leu	Leu	Glu 385	Thr	Leu	Tyr	Gly	Thr 390
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Phe Ala Gln Val Trp Cys Ser Val Arg Thr Pro Glu Ser Ser His
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Glu Gly Leu Val Thr Asp Pro His Ser Pro Ala Arg Phe Arg Val
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Leu Gly Thr Leu Ser Asn Ser Arg Asp Phe Leu Arg His Phe Gly
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aatgagaaag taaggaacat cttccgaacc cccatcccta cccctggctg 900
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ccagtggggg aattcggaga tataagtttc cgagccattg ccacaggaag 1150
cgttcagtgt cgatgggttc atggacctag ataggctgat aacaaagctc 1200
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Met Met Val Arg Lys Gly Asp Thr Ala Val Leu Arg Cys Tyr Leu 50 55 60

Glu Asp Gly Ala Ser Lys Gly Ala Trp Leu Asn Arg Ser Ser Ile 65 70 75

Ile Phe Ala Gly Gly Asp Lys Trp Ser Val Asp Pro Arg Val Ser 80 85 90

Ile Ser Thr Leu Asn Lys Arg Asp Tyr Ser Leu Gln Ile Gln Asn 95 100 105

Val Asp Val Thr Asp Asp Gly Pro Tyr Thr Cys Ser Val Gln Thr 110 115 120

Gln His Thr Pro Arg Thr Met Gln Val His Leu Thr Val Gln Val 125 130 135

Pro Pro Lys Ile Tyr Asp Ile Ser Asn Asp Met Thr Val Asn Glu 140 145 150

Gly Thr Asn Val Thr Leu Thr Cys Leu Ala Thr Gly Lys Pro Glu 155 160 165

Pro Ser Ile Ser Trp Arg His Ile Ser Pro Ser Ala Lys Pro Phe 170 175 180

Glu Asn Gly Gln Tyr Leu Asp Ile Tyr Gly Ile Thr Arg Asp Gln 185 190 195

Ala Gly Glu Tyr Glu Cys Ser Ala Glu Asn Ala Val Ser Phe Pro 200 205 210

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Tyr Lys G	ly Glu	Lys 260	Lys	Leu	Phe	Asn	Gly 265	Gln	Gln	Gly	Ile	Ile 270
Ile Gln A	sn Phe	Ser 275	Thr	Arg	Ser	Ile	Leu 280	Thr	Val	Thr	Asn	Val 285
Thr Gln G	lu His	Phe 290	Gly	Asn	Tyr	Thr	Cys 295	Val	Ala	Ala	Asn	Lys 300
Leu Gly T	hr Thr	Asn 305	Ala	Ser	Leu	Pro	Leu 310	Asn	Pro	Pro	Ser	Thr 315
Ala Gln T	yr Gly	Ile 320	Thr	Gly	Ser	Ala	Asp 325	Val	Leu	Phe	Ser	Cys 330
Trp Tyr L	eu Val	Leu 335	Thr	Leu	Ser	Ser	Phe 340	Thr	Ser	Ile	Phe	Tyr 345
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<212> PRT

<213> Homo Sapien

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Ile Asn Val Pro Lys Pro Lys Arg Arg Asn Gly Val Asn Phe Ser Leu Ala Val Val Ile Tyr Leu Ile Leu Leu Thr Ala Gly Ala Gly Leu Leu Val Val Gln Val Leu Asn Leu Gln Ala Arg Leu Arg Val Leu Glu Met Tyr Phe Leu Asn Asp Thr Leu Ala Ala Glu Asp Ser Pro Ser Phe Ser Leu Leu Gln Ser Ala His Pro Gly Glu His Leu Ala Gln Gly Ala Ser Arg Leu Gln Val Leu Gln Ala Gln Leu 120 110 Thr Trp Val Arg Val Ser His Glu His Leu Leu Gln Arg Val Asp 130 Asn Phe Thr Gln Asn Pro Gly Met Phe Arg Ile Lys Gly Glu Gln Gly Ala Pro Gly Leu Gln Gly His Lys Gly Ala Met Gly Met Pro Gly Ala Pro Gly Pro Pro Gly Pro Pro Ala Glu Lys Gly Ala Lys Gly Ala Met Gly Arg Asp Gly Ala Thr Gly Pro Ser Gly Pro Gln 190 Gly Pro Pro Gly Val Lys Gly Glu Ala Gly Leu Gln Gly Pro Gln Gly Ala Pro Gly Lys Gln Gly Ala Thr Gly Thr Pro Gly Pro Gln 220 Gly Glu Lys Gly Ser Lys Gly Asp Gly Gly Leu Ile Gly Pro Lys 235 Gly Glu Thr Gly Thr Lys Gly Glu Lys Gly Asp Leu Gly Leu Pro Gly Ser Lys Gly Asp Arg Gly Met Lys Gly Asp Ala Gly Val Met Gly Pro Pro Gly Ala Gln Gly Ser Lys Gly Asp Phe Gly Arg Pro 280 Gly Pro Pro Gly Leu Ala Gly Phe Pro Gly Ala Lys Gly Asp Gln Gly Gln Pro Gly Leu Gln Gly Val Pro Gly Pro Pro Gly Ala Val Gly His Pro Gly Ala Lys Gly Glu Pro Gly Ser Ala Gly Ser Pro

	320	32.	25	330					
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Gly Leu Lys Gly	Ser Lys Gly 350	Asp Thr Gl 35	y Leu Gln Gly	Gln Gln 360					
Gly Arg Lys Gly	Glu Ser Gly 365	y Val Pro Gl 37		Val Lys 375					
Gly Glu Gln Gly	Ser Pro Gly	y Leu Ala Gl 38	y Pro Lys Gly 35	Ala Pro 390					
Gly Gln Ala Gly	Gln Lys Gly 395	y Asp Gln Gl 40		Ser Ser 405					
Gly Glu Gln Gly	Val Lys Gly 410	y Glu Lys Gl 41		Glu Asn 420					
Ser Val Ser Val	Arg Ile Va. 425	l Gly Ser Se 43		Arg Ala 435					
Glu Val Tyr Tyr	Ser Gly Th	r Trp Gly Th 44		Asp Glu 450					
Trp Gln Asn Ser	Asp Ala Il 455	e Val Phe Cy 46	ys Arg Met Leu 60	Gly Tyr 465					
Ser Lys Gly Arg	Ala Leu Ty 470	r Lys Val Gl 47		Gly Gln 480					
Ile Trp Leu Asp	Asn Val Gl 485	n Cys Arg Gl 49	ly Thr Glu Ser 90	Thr Leu 495					
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<211> 98

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Lys Ile Leu Lys Asp His Asn Cys His Asn Leu Pro Glu Gly Val
35 40 45

Ala Asp Leu Thr Gln Ile Asp Val Asn Val Gln Asp His Phe Trp 50 55 60

Asp Gly Lys Gly Cys Glu Met Ile Cys Tyr Cys Asn Phe Ser Glu
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Ser Asn Glu Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala 50 55 60

Phe Leu Asp Glu Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu His
65 70 75

Asn Phe Thr Gln Ile Pro His Leu Ala Gly Thr Glu Gln Asn Phe 80 85 90

Gln Leu Ala Lys Gln Ile Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His Tyr Asp Val Leu Leu Ser Tyr Pro 120 115 110 Asn Lys Thr His Pro Asn Tyr Ile Ser Ile Ile Asn Glu Asp Gly 135 130 125 Asn Glu Ile Phe Asn Thr Ser Leu Phe Glu Pro Pro Pro Gly 145 Tyr Glu Asn Val Ser Asp Ile Val Pro Pro Phe Ser Ala Phe Ser 160 Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr Val Asn Tyr Ala 170 Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met Lys Ile Asn Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val Phe Arg Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly Val Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys 235 230 Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Gly Val Gln Arg Gly Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro Gly Tyr Pro Ala Asn Glu Tyr Ala Tyr Arg Arg Gly Ile Ala Glu Ala Val Gly Leu Pro Ser Ile Pro Val His Pro Ile Gly Tyr Tyr 295 Asp Ala Gln Lys Leu Leu Glu Lys Met Gly Gly Ser Ala Pro Pro 310 Asp Ser Ser Trp Arg Gly Ser Leu Lys Val Pro Tyr Asn Val Gly 325 Pro Gly Phe Thr Gly Asn Phe Ser Thr Gln Lys Val Lys Met His 340 Ile His Ser Thr Asn Glu Val Thr Arg Ile Tyr Asn Val Ile Gly 355 Thr Leu Arg Gly Ala Val Glu Pro Asp Arg Tyr Val Ile Leu Gly Gly His Arg Asp Ser Trp Val Phe Gly Gly Ile Asp Pro Gln Ser

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Lys	Lys	Glu	Gly	Trp 410	Arg	Pro	Arg	Arg	Thr 415	Ile	Leu	Phe	Ala	Ser 420
Trp	Asp	Ala	Glu	Glu 425	Phe	Gly	Leu	Leu	Gly 430	Ser	Thr	Glu	Trp	Ala 435
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Cys	Thr	Pro	Leu	Met 470	Tyr	Ser	Leu	Val	His 475	Asn	Leu	Thr	Lys	Glu 480
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Gln	Arg	Leu	Gly	Ile 530	Ala	Ser	Gly	Arg	Ala 535	Arg	Tyr	Thr	Lys	Asn 540
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Lys	Tyr	His	Leu	Thr 575		Ala	Gln	Val	Arg 580	Gly	Gly	Met	Val	Phe 585
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